

ROLE OF MEDIA IN AGRICULTURAL DEVELOPMENT IN TANZANIA: A STUDY

Thesis Submitted for the Award of the Degree of

DOCTOR OF PHILOSOPHY

in

JOURNALISM and MASS COMMUNICATION

By

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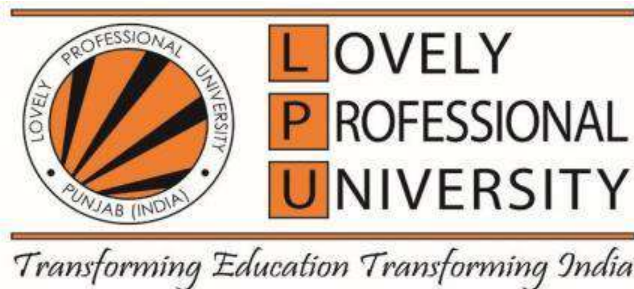
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2025

DECLARATION

I, hereby declared that the presented work in the thesis entitled “**Role Of Media In Agricultural Development In Tanzania: A Study**” in fulfilment of degree of **Doctor of Philosophy (Ph.D.)** is outcome of research work carried out by me under the supervision of **Dr. Thakur, Sugandha Shekhar** , working as Assistant Professor, in the School of Liberal and Creative Arts (Journalism and Mass Communication) of Lovely Professional University, Punjab, India. In keeping with general practice of reporting scientific observations, due acknowledgements have been made whenever work described here has been based on findings of other investigator. This work has not been submitted in part or full to any other University or Institute for the award of any degree.



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CERTIFICATE

This is to certify that the work reported in the Ph.D. thesis entitled **Role Of Media In Agricultural Development In Tanzania: A Study**” submitted in fulfillment of the requirement for the award of degree of **Doctor of Philosophy (Ph.D.)** in the School of Liberal and Creative Arts (Journalism and Mass Communication), is a research work carried out by **Angel Anthony Kasonta**, Registration no. 12202689, is bonafide record of her original work carried out under my supervision and that no part of thesis has been submitted for any other degree, diploma or equivalent course.



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ABSTRACT

This study investigated the impact of media on rural and agricultural development in Tanzania. Data were gathered from smallholder farmers in rural areas to understand their methods of accessing agricultural knowledge and information for poverty reduction. Additionally, the collaboration between the Tanzanian government, agricultural stakeholders, and smallholder farmers was examined in promoting rural and agricultural development. Despite the recognized potential of mass media in providing agricultural information to both rural and urban populations, its effectiveness in facilitating access to such information for poverty alleviation among Tanzanian farmers was explored. The mass media was identified as a significant tool for fostering political, social, and economic growth within rural communities.

The researcher used some theories as the foundation of this study whereby Theories provide a comprehensive overview of the nature and importance of theories and models in research. It emphasizes their role in explaining phenomena, making predictions, and guiding critical evaluation. Additionally, it highlights the significance of theories in shaping the wider knowledge domains considered in research and their utility in quantitative research for evaluating conditions and mechanisms of occurrences. Overall, the paragraph effectively sets the stage for introducing the specific theories used in the research. Theories used are as the following:

i. Development media theory of communication

The Development Media Theory, as expounded by McQuail in his seminal work "Mass Communication Theories" (1987), serves as the cornerstone of the subject. This theory primarily seeks to elucidate the normative behavior of the press within nations categorized as developing. The Development Media Theory asserts that mass media usage can substantially contribute to the growth of a nation or society by addressing the public's information needs and enhancing their knowledge across various aspects of life.

ii. Uses and Gratification Theory

The uses and gratification theory, which focuses on the audience's perspective, was initially formulated by American political scientist and communication

theorist Harold Lasswell in 1940. This theory suggests that audiences play an active role in consuming media, using it to fulfill their specific needs and desires. The theory posits that audiences have agency in selecting media that best aligns with their needs, suggesting that individuals use media to fulfill various gratifications and satisfactions. Consequently, according to this hypothesis, the media compete to satisfy viewers' preferences.

iii. Diffusion of Innovation Theory

The Diffusion of Innovation (DOI) Theory, introduced by E.M. Rogers in 1962, is a foundational concept in social science that elucidates how new ideas, behaviors, or products spread within a society over time. Central to the theory is the notion of adoption, wherein individuals within a social system gradually embrace and integrate novel concepts into their lives. This theory, rooted in diffusion research, provides a systematic framework for studying the introduction and dissemination of new technologies, ideas, and information. By applying Singer's theory, researchers can gain insights into the processes through which new media platforms are adopted and integrated into society, offering valuable guidance for understanding the dynamics of media dissemination and its impact on societal behavior and communication patterns.

It is imperative that mass media serve as the primary conduit for disseminating new developments to the populace. Every community requires government support for rural development to achieve full societal advancement and understanding of basic needs and economic conditions. Research underscores the limited access to agricultural information among Tanzanian farmers (Msoffe & Ngulube, 2016; Ronald et al., 2014; Elly et al., 2013). To assess how mass media can simplify access to and utilization of agricultural information for Tanzanian farmers, particularly to mitigate poverty levels, the Gairo district was selected as a case study. The study aimed to:

- i. To a study the role of media in fostering the adoption of innovations and overcoming barriers in agriculture among smallholder farmers in Tanzania.
- ii. To explore the changes in agricultural practices in rural areas of

Tanzania attributed to media influence.

- iii. *To find out and evaluate the communication strategies employed by various agencies to promote agricultural development.*
- iv. *To examine the contribution of media to the overall development of rural areas in Tanzania.*

The research was conducted in Tanzania at selected villages of Gairo district, Morogoro region. A sample size of 384 respondents was utilized to test the following hypotheses:

- i. *Media contribute to the adaptation of agricultural innovations and address barriers among smallholder farmers in Tanzania?*
- ii. *There are specific changes in agricultural practices can be attributed to the influence of media in rural areas of Tanzania*
- iii. *Distinct communication strategies employed by different agencies to promote agricultural development in Tanzania, particularly in rural regions*
- iv. *The role of media influences the overall development of rural areas in Tanzania.*

Data collection employed a case study research methodology, utilizing both quantitative and qualitative techniques such as surveys, interviews, focus group discussions, and observations. Quantitative data analysis utilized SPSS version 16.1, employing chi-square tests, cross tabulations, graphs, and descriptive statistics, while qualitative data underwent descriptive analysis. The survey findings indicate radio as the most popular source of information and knowledge in the studied area, compared to television, newspapers, and social media platforms, including the Ministry of Agriculture's Instagram account.

Media plays a crucial role in facilitating the adoption of modern agricultural practices and technologies, despite facing challenges such as limited access and cultural barriers. Through media-driven initiatives, rural development is significantly enhanced, leading to increased productivity, higher incomes, and the promotion of sustainable agricultural practices. Continuous collaboration

between the National Irrigation Commission and media outlets is vital to maximize these positive impacts.

Changes in agricultural practices attributed to media include the widespread adoption of modern technology, increased use of agricultural inputs like fertilizers and pesticides, abandonment of traditional seeds in favor of improved varieties, and a rise in irrigation farming. Moreover, the adoption of climate-smart agriculture practices has been promoted through media channels.

The Tanzanian government, particularly through the Ministry of Agriculture, employs various communication strategies to promote agricultural development, including: Establishment of social media platforms such as the "Wizara_ya_Kilimo" Instagram account, which serves as a hub for agricultural information dissemination, Creation of Government Communication Units within different departments, including the Ministry of Agriculture, dedicated to promoting agricultural issues, Utilization of public events like Nanenane and World Food Day to advocate for agriculture-related agendas and provide farmers with opportunities to showcase their products, Organization of public forums such as farmers' union gatherings to discuss agricultural matters and the launch of Kilimo Television to further promote agricultural initiatives.

In general, respondents in the study reported that agricultural news heard on the radio directly impacted their farming activities, while exposure to agricultural news through television and newspapers was less relevant. Barriers to accessing agricultural information via media platforms included inadequate power supply, weak signals, expensive media sources, and limited feedback mechanisms. Therefore, it is recommended that the government prioritize electrification of rural areas and improve transportation infrastructure to enhance access to modern agricultural media sources and facilities, thereby benefiting rural communities.

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ROLE OF MEDIA IN AGRICULTURAL DEVELOPMENT IN TANZANIA: A STUDY

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The traditional concept of education has evolved significantly due to the integration of media, which has largely mitigated its shortcomings and brought about substantial improvements in educational outcomes (Charlton et al., 2002). In recent decades, mass media usage has notably contributed to enhancing knowledge levels and educational achievements.

Television, recognized as a potent communication medium, has wielded significant influence on society since World War II, particularly in educational endeavors. Initially termed as "lesson television," instructional television has played a pivotal role in disseminating knowledge across various sectors, including agriculture. According to Ekoja (2003), radio and television serve as primary sources of agricultural knowledge for farmers, supplemented by propagandistic publications, daily farm newspapers, agricultural exhibitions, hands-on learning experiences, and consultancy services.

Agriculture stands as the primary industry in Africa, supporting the livelihoods of nearly 70% of Africans and approximately 80% of the continent's impoverished populace residing in rural areas (Economic Commission for Africa, 2012). Contributing around 20% to Africa's GDP, employing 60% of its workforce, and accounting for 20% of all goods exports, agriculture is pivotal to the continent's economy (Tanzania Economic Forum, 2011). In Tanzania specifically, agriculture engages 81% of the labor force, drives 85% of exports, and generates 75% of foreign exchange earnings (United Republic of Tanzania, 2021).

Recognizing the imperative for agricultural knowledge dissemination within rural communities, particularly among farmers, is crucial. Agricultural information stands as a vital resource in fostering agricultural and rural development, enabling

farmers to make informed decisions for the sustained growth of their enterprises (Stefano et al., 2005). Despite its critical importance, scientific and technical agricultural information often receives less attention compared to other sectors in the development discourse of developing countries. This disparity is highlighted by Alam and Haque (2014), who note that many rural farmers still lack awareness of modern agricultural practices, underscoring the need for concerted efforts to bridge this knowledge gap.

Agriculture holds significant importance in society as a primary source of food and essential raw materials for various economic sectors, serving as the largest employer and economic driver in Tanzania according to the National Bureau of Statistics (NBS) in 2016. Given the dynamic nature of agricultural production and the limited availability of crucial resources such as land, labor, and capital, farmers require adequate access to agricultural knowledge to make informed decisions and produce high-quality agricultural products to meet consumer demands (Niragira, 2011; Schmidhuber et al., 2009).

Despite the plethora of methods available for conveying agricultural knowledge, face-to-face interaction remains the most prevalent among farmers in developing countries, a practice that has persisted over time (Msoffe & Ngulube, 2016). This mode of communication allows for the conveyance of messages through various modalities such as facial expressions, gestures, intonation, words, and body language, facilitating real-time feedback due to the physical presence of all parties involved (Lewandowski et al., 2011). However, this channel is susceptible to message distortion during transmission from one person to another (Velentzas & Broni, 2014).

Technological advancements have introduced new communication channels, both mediated and direct, including social media, radio, television, print media, public speaking, mobile phone applications, and web-based platforms (Livondo et al., 2015; Goggin, 2012; Apata, 2010; Lee & Ma, 2012; D'Haenens et al., 2004). The choice of communication channel is influenced by various factors such as media awareness and credibility, message quality, feedback mechanisms, and message urgency (Livondo et al., 2015). Additionally, the efficacy of the communication

infrastructure further determines the utilization of specific communication channels.

The adoption and utilization of communication technologies such as radio, television, web-based media, and mobile phones are influenced by the availability of ICT networks, while the distribution of print media can be affected by the condition of transportation infrastructure like roads (Mtega & Bernad, 2013). Depending on the nature of the knowledge being transmitted, the authority of the channel, the sophistication of the communication infrastructure, rural or urban settings, the intended audience, their location, and literacy levels, various methods of communicating agricultural knowledge may be employed (Livondo et al., 2015; Mtega & Benard, 2013; Mtega, 2012; Apata, 2010). These factors underscore why certain communication channels may be more effective than others in disseminating agricultural knowledge.

In developing countries, it's crucial to consider the communication channel and associated elements when transmitting agricultural information effectively. For instance, poor and impassable roads in rural areas, particularly during the rainy season when agricultural activity is at its peak, restrict the audience for agricultural information published in print media (Berg et al., 2018). Similarly, limited access to ICT networks and personal computers in rural areas further constrains the dissemination of agricultural information through online media (Yagos et al., 2017).

Moreover, the scarcity of agricultural extension agents relative to the number of poor farmers impedes the distribution of agricultural knowledge through face-to-face communication channels in many developing countries, including Tanzania (Daniel, 2013; CUTS International, 2011). In contrast, radio and television stations can reach a larger audience simultaneously, facilitated by satellite and antenna broadcasting, with the transition from analogue to digital transmissions enhancing accessibility and coverage (Wahab, 2015; Tanzania Communication Regulatory Authority [TCRA], 2017; Ngowi et al., 2016).

Ensuring sufficient and appropriate information from all communication channels is essential for increasing agricultural productivity and income, thereby reducing poverty among food producers (Nkrumah, 2008). Communication technology

plays a very vital role in enhancing farmers' knowledge of various agricultural and farming technologies. Mass media, in particular, provides powerful channels for disseminating agricultural messages and associated knowledge, assisting rural farmers in poverty reduction (Nazari & Hassan, 2011).

Additionally, Mahmood and Sheikh (2005) argue that mass media, due to its ability to disseminate information rapidly, is one of the most effective avenues for informing farmers about new scientific and agricultural developments. The utilization of media in motivating people for agricultural development significantly influences the effectiveness of agricultural development programs in developing countries (Purushothaman, 2003). Proper utilization of media can accelerate agricultural growth, a well-known fact among planners in developing countries.

Mtega's (2018) research in Tanzania highlights radio, television, and video as primary information sources for the nation's farmers, while also suggesting potential for other modern technologies to play foundational roles. Print media in Tanzania presents a unique scenario in agricultural transmission. According to FAO (2001), television stands out as the most significant medium for reaching rural communities in developing nations.

There is an argument that Tanzania's mass media has historically neglected rural areas, despite claims of neutrality and dedication to justice. The media often adopts an urban-centric viewpoint, with stories and perspectives framed from a city inhabitant's standpoint. Issues and challenges faced by rural communities, as well as their sense of injustice, are frequently overlooked. Media, encompassing films, television, and journalism, significantly influences a society's culture and political climate.

Television tends to exhibit the most pronounced urban bias among mass media in developing countries, while radio remains the most accessible. However, even radio exhibits social stratification, with disparities not only between urban and rural areas but also within rural communities. Many rural residents, particularly in impoverished nations, experience under communication, highlighting inequities in media access alongside other resources.

Mass media strategies for agricultural information transmission prove useful in rapidly reaching a broad audience. They serve as crucial resources for farmers seeking agricultural guidance and disseminating urgent news and emergencies. Promoting agricultural development and poverty alleviation often requires leveraging the media, as noted by Gopalakrishna (2005), who views them as instrumental in eradicating poverty. However, it remains uncertain how effectively mass media can facilitate access to and utilization of agricultural information to alleviate poverty among Tanzanian farmers.

Farmers encounter numerous challenges when accessing agricultural information through the media. Mtega and Benard (2013) identified scant media coverage, high illiteracy rates in rural areas, and pervasive poverty as significant barriers. Competition from other programming genres like news and entertainment, coupled with ineffective broadcast timing, further impedes access to agricultural information (Ramli et al., 2013). Additionally, inadequate rural energy infrastructure diminishes the effectiveness of television broadcasts, especially in rural areas (Mtega & Msungu, 2013). Language barriers and inappropriate dissemination timing also hinder farmers' access to agricultural information via the media, according to Mgbakor et al. (2013). These challenges underscore the complexities inherent in delivering agricultural information effectively to rural communities.

The study titled "**Role of Media in Agricultural Development in Tanzania: A Study**" aims to investigate the influence of traditional and new media on agricultural and rural development in Tanzania. Specifically, it seeks to determine the role and task of the media coverage and along with information awareness in agricultural and farming development, particularly among smallholder farmers. Additionally, this study aims and intending to assess the impact of different media platforms on rural communities' agricultural development and explore the factors that influencing the use of the media sources by Tanzanian farmers to learn about agriculture. Through this research, the study aims to identify significant sources of agricultural knowledge, evaluate the potential of media in disseminating agricultural information, assess the usability and accessibility of media

agricultural programs, and investigate factors influencing both media agricultural programs and Tanzania's rural and agricultural development.

1.1 a. Tanzania

Tanzania emerged from the amalgamation of Zanzibar, an island in the Tanzanian archipelago in the Indian Ocean, and Tanganyika, the mainland, with Tanganyika gaining independence in 1961 and Zanzibar in 1964. The two nations united in April 1964 to form the United Republic of Tanganyika and Zanzibar, later renamed The United Republic of Tanzania. Presently, Tanzania has a population of 62.39 million, with a gender distribution of 51% female and 49% male. Approximately 63.4% of the population resides in rural regions, while 36.6% lives in urban areas. Concerning new media usage, 25% of the population uses the internet, and 9.8% engages with social media (United Republic of Tanzania, 2022, pg. 04).

1.1 b. Rural Development

Without proper education for rural populations, achieving sustainable development anchored in the pillars of social, economic, and environmental progress is unattainable. Rural development initiatives aim to uplift livelihoods by implementing comprehensive programs in areas predominantly affected by poverty. By addressing root causes and improving living conditions, such efforts also mitigate excessive migration from rural to urban areas, consequently reducing poverty in metropolitan regions. Key focus areas of rural development include poverty alleviation, enhancing livelihood opportunities, and improving infrastructure facilities.

Rural development encompasses economic and social initiatives aimed at fostering expansion, growth, and sustainability in non-urban regions. The primary goal is to enhance the quality of life for rural populations through various interventions and programs.

1.1 c. Importance of rural development in Tanzania

Globally, advancing the economic, social, and environmental status of nations necessitates sustainable rural development. With over 63% of Tanzania's population residing in rural areas and relying primarily on agricultural production

for their livelihoods and income, the importance of this sector cannot be overstated.

The enhancement of economic, social, and environmental conditions on a global scale hinges on sustainable rural development. In Tanzania, where 63% of the population resides in rural areas and relies heavily on farming and agriculture for sustenance and income, prioritizing initiatives to strengthen rural communities and alleviate the rural-urban divide is paramount. It is imperative to implement innovative solutions tailored to the specific needs of rural areas in Tanzania to foster sustainable development and ensure equitable progress across the nation.

1.1 d. Agriculture in Tanzania

Agriculture stands as a vital economic sector, significantly contributing to Tanzania's national economy. As per the Economic Survey Report of 2020, the sector accounted for 26.9% of the country's GDP during that year, with the subsector for crops alone contributing 15.4% of the total GDP.

The Tanzanian government conducted the National Sample Census of Agriculture at the culmination of the 2019–20 agricultural seasons, encompassing both small-scale and large-scale farming operations. The census revealed that 7,837,405 families, constituting 65.3% of the total 12,007,839 households in Tanzania (11,659,589 in Mainland Tanzania and 348,250 in Tanzania Zanzibar), were actively engaged in agricultural activities.

In terms of the distribution of agriculture households, the National Sample Census of Agriculture for 2019/2020 revealed that 5,088,135 households (64.9%) were solely engaged in crop cultivation, while 2,589,156 households (33.0%) were involved in both crop cultivation and livestock rearing. Additionally, 1,547,290 households (2.0%) focused solely on livestock, while a minimal number of households, 1,358 (less than one percent), were engaged in fish farming, and 1,465 households (less than one percent) were involved in pastoralism (**The National Sample Census of Agriculture 2019/2020 National report, pg. 38, August 2021**).

The agricultural landscape in Tanzania predominantly comprises smallholder farmers cultivating a diverse range of crops, including groundnuts, sunflower, beans, cowpeas, paddy, maize, and sorghum. Additionally, farmers cultivate

various fruits and vegetables such as tomatoes, onions, cabbage, amaranth, oranges, mangoes, bananas, and pawpaw. Cash crops like cotton, tobacco, sisal, cashew nuts, coffee, and tea are predominantly grown by commercial large-scale farms and smallholder farms for export. In the livestock sub-sector, most smallholders rear native cattle, sheep, goats, and chickens, with a minority participating in small-scale fishing and fish farming (**National Sample Census of Agriculture 2019/2020 National report, pg. 42, August 2021**).

1.1 e. Small Holder farmers in Tanzania

In Tanzania, smallholdings, defined as those farmers who are smaller than those of the middle-size farm criterion of 2.5 hectares, represent around 3.7 million farms, comprising 80 percent of all agricultural establishments (National Sample Census of Agriculture 2019/2020 National report, August 2021). Agriculture, which contributes to 28 percent of the country's Gross Domestic Product (GDP) and sustains 63 percent of the rural population, heavily relies on these small-scale farms.

Utilizing conventional technologies, these smallholdings contribute approximately 75% of Tanzania's total agricultural output, primarily catering to domestic consumption needs. The cultivation of food and staple crops is predominantly carried out by smallholder families, with maize being the most widely grown staple crop, followed by beans, cassava, sweet potatoes, and rice.

The formulation of agricultural policies and plans, such as the National Approach and Strategy for the Economic growth and Poverty Reduction (NSGRP), commonly referred to as MKUKUTA in Kiswahili, along with specific policies and projects, prioritize support for small-scale farmers. Key objectives include ensuring food security and self-sufficiency, transitioning from subsistence to commercial agriculture, enhancing agricultural marketing systems, empowering producers and facilitating market linkages, improving rural livelihoods, reducing income poverty, enhancing the supply of raw materials, and advancing production, marketing, and processing technologies. These initiatives collectively aim to alleviate poverty and enhance agricultural sustainability in Tanzania.

In Tanzania, an estimated 60% to 75% of smallholder farmers lack access to extension services, as highlighted by ASDP (2005) and Rukonge et al. (2008). The country's agricultural extension system encounters numerous challenges, mirroring those encountered by other Sub-Saharan African nations, such as weak institutional frameworks, bureaucratic organizational structures, and communication barriers (Mattee, 1994). Moreover, the majority of extension agents are civil officials who tend to prioritize administrative tasks, such as paperwork and reporting, over addressing the immediate needs of farmers (Mattee, 1994; Daniel et al., 2013). Similarly, top-down communication among agricultural stakeholders in Tanzania often excludes smallholder farmers, as information is primarily conveyed through extension agents (Nyamba, 2012; Philip, 2014).

1.1 f. Agriculture extension and Rural Development

Agricultural extension, as defined by Gaaya (2004), is a service or system aimed at assisting farmers through educational processes to enhance agricultural methods and techniques, boost production efficiency and income, improve living standards, and elevate the social and educational aspects of rural life.

In Tanzania, the ratio currently stands at one extension worker for every 2,000 farmers (Hella, 2013). However, challenges such as the country's vast geography, poor working conditions, inadequate transportation, and deficient infrastructure pose obstacles for extension workers in reaching every rural area (Mattee, 1994). Moreover, insufficient training further exacerbates these challenges.

The hierarchical structure of the government's extension system in Tanzania involves the dissemination of research findings from institutions under the Ministry of Agriculture to regional government officials, who then relay this information to extension workers at the village level. In addition to government efforts, NGOs and private enterprises play roles in generating and disseminating agricultural knowledge, partly in response to the limitations and funding constraints of the government extension service (Birner et al., 2009).

To address these shortcomings, the Tanzanian government has employed professional agricultural officials who physically visit remote farmers in their villages to provide information on crop protection and basic farming skills,

particularly targeting young and new farmers. However, challenges such as a shortage of agricultural officers and inadequate transportation infrastructure hinder their ability to reach all farmers promptly. Consequently, some farmers receive crop protection information too late or not at all, leading to delays in crucial farming decisions and potentially reduced crop yields.

1.1 g. Media

Communication channels serve as crucial conduits for disseminating news, information, and entertainment from the source to the audience. They can be broadly categorized into three types: print media, electronic media, and digital media. Print media encompasses publications such as newspapers, magazines, and journals, which deliver news in printed format. Electronic media utilizes platforms like radio and television, transmitting information through frequencies. On the other hand, digital media, also known as new media, relies on the internet for message transmission, reaching audiences through various online platforms and channels. Each type of media plays a very significant role especially in informing, educating, and entertaining the public, contributing to the dissemination of knowledge and fostering communication in society.

1.1 h. Traditional Mass Media

Traditional mass media encompasses various platforms including print media, movie theatres, radio, newspapers, and television. Often referred to as "old media" or "legacy media," traditional mass media includes daily and weekly newspapers, which have long been recognized as part of this category. Additionally, media forms like radio and television, characterized by their adherence to set schedules, are also considered traditional media. Overall, traditional media prioritizes informing the public at large or specific segments about news and information.

1.1 i. New Media

New media encompasses a diverse range of media forms that rely on devices like computers, mobile phones, and tablets for encoding and dissemination. These platforms facilitate the sharing of information through various channels and often involve translating audio or visual inputs into digital formats. Web-based content, including social media platforms, news websites, and applications, falls under the

umbrella of new media, highlighting its dynamic and interactive nature in enabling communication and information sharing.

According to **Safiya (2018)**, digital media, also referred to as new media, represents the central core of the significant revolution witnessed in modern media. This transformation is credited to the advent of the Internet, a global networking system that has profoundly altered the landscape of journalism. Moreover, it has facilitated the rapid expansion of citizen journalism or participatory journalism through online platforms and forums.

1.1 j. Social Media

Social media serves as a communication channel facilitated by the internet, enabling users to interact, exchange information, and create content across various online platforms. This diverse medium encompasses a wide range of formats, including blogs, microblogs, wikis, social networking sites, picture and video sharing platforms, instant messaging, podcasts, widgets, virtual reality, and more. Through these platforms, individuals can engage in conversations, share content, and connect with others, contributing to the dynamic and interactive nature of social media.

1.1 k. Instagram

The social media platform described is Instagram, operated by the American company Meta Platforms. Instagram allows users to share pictures and videos, which can be edited using filters, organized using hashtags, and tagged with locations. Posts can be shared with the public or pre-approved followers. The platform was initially launched in 2010 and is accessible in 32 languages, as noted by **Frier, Sarah (2020)**.

1.1 l. Media History of Tanzania

Tanzania currently boasts a diverse and vibrant media landscape, comprising 257 newspapers, 200 radio stations, 46 TV channels, 474 internet TV channels, and 100 news websites. The roots of Tanzania's media can be traced back to 1888 with the establishment of the Msimulizi (The Storyteller) weekly in Zanzibar (Sturmer, 1998). This historical backdrop highlights the country's dynamic media scene, characterized by its richness and diversity. (**United Republic of Tanzania, 2022**)

1.2. Media role in creating awareness among rural society in accessing Agriculture information and knowledge

The primary objective of mass media in agricultural development is to effectively convey practical agricultural knowledge to farmers, capturing their attention, aiding their comprehension, and ultimately assisting them in making informed decisions.

Information exchange is essential across all fields of human activity, ensuring efficient completion of tasks. Inefficient communication or breakdowns in information flow result in inefficiencies. Knowledge is recognized as a critical resource with the potential to profoundly impact society, and societies with effective communication and information infrastructure tend to advance more rapidly. Rural radio plays a pivotal role in promoting development in rural areas by providing diverse programs that address development-related topics. Communication serves as the foundational element of social interaction, facilitating the exchange of ideas, enhancing community cohesion, enabling message exchange, and translating ideas into action. Through radio communication, listeners are enlightened about emerging social challenges and empowered to take action **(Kabir, M. Y 2016)**.

Kakde (2013) emphasizes the effectiveness of mass media as a rapid and efficient medium for disseminating agricultural information, particularly in rural areas of developing nations. The accessibility of mass media plays a crucial role in providing farmers with all the necessary knowledge and information in order to make the informed decisions especially about their farming practices. Studies conducted in Nigeria by Ariyo (2013) and in rural areas by Abu Hassan et al. (2009) highlight the reliance of farming communities on traditional mass media such as newspapers, television, and radio for agricultural information. Similarly, research by Farooq (2007) in Pakistan indicates that print media serves as the primary source of agricultural information.

In modern times, there are three main types of media: print media, electronic media (including radio and television), and digital media (utilizing the internet). Farmers utilize various mass media communication channels to access

agricultural information, reflecting the evolving landscape of media consumption in agricultural communities.

1.2. a. Radio

Radio has emerged as a potent tool for promoting rural development and agriculture, owing to its widespread reach and accessibility. Studies by Nakabugu (2001) and Omenesa (1997) highlight radio's effectiveness in disseminating agricultural information to farmers, facilitated by its timely broadcasts and ability to reach listeners regardless of location. Ozowa (1995) underscores radio's capacity to efficiently communicate extension production recommendations to a large audience of farmers, further emphasizing its significance in agricultural communication. In Nigeria, research by Zaria & Omenesa (1992), Omenesa (1997, 2000), and Ekumankama (2000) confirms radio as the most utilized mass communication medium, particularly in rural areas. Similarly, in Bangladesh, Alam and Haque (2014) find radio and television to be valuable sources of information for farmers, serving as essential conduits for conveying agricultural advancements and emergency notifications.

1.2. b. Television

Television serves as a vital mass media platform for disseminating agricultural information, employing various techniques such as panel discussions, interviews, dramatizations, lectures, and performances, as highlighted by Majed (1990). This medium enables farmers to quickly access information on agricultural innovations, as emphasized by Irfan et al. (2006). Research conducted in China by Yu (2010) revealed that television was the primary source of information for 90% of farmers surveyed, underscoring its effectiveness in reaching agricultural audiences. Similarly, a study conducted in Bangladesh by Alam and Haque (2014) demonstrated a high adoption rate of agricultural knowledge associated with television usage.

1.2. c. Print Media

Print media encompasses various written materials such as leaflets, pamphlets, posters, journals, newsletters, newspapers, magazines, and bulletin boards, among others. This medium aids in the preservation of information through the creation of durable and accessible materials such as books, brochures, and newspapers, as

noted by Irfan et al. (2006). Print media allows for the dissemination of information in a persistent and reproducible manner, complementing other communication channels to enhance the learning process for farmers. Research by Farooq et al. (2007) in Pakistan revealed that farmers predominantly relied on pamphlets as their preferred print medium for accessing agricultural information, followed by posters, newspapers, books, magazines, and journals. However, studies such as that conducted by Lwoga (2009) indicate limited use of printed materials among Tanzanian farmers due to factors such as language, availability, and affordability.

1.2. d. New Media

The term "new media" encompasses a diverse range of media forms that rely on technological devices such as computers, mobile phones, and tablets for encoding and dissemination. These platforms often involve the translation of audio or visual data into digital formats to facilitate information sharing. New media primarily includes web-based content, including social networking sites, news websites, and various applications.

Rampal (2009) highlights the transformative impact of media on rural livelihoods, particularly through online platforms that bypass intermediaries in the agriculture sector, offering farmers newfound opportunities and streamlining the sale of their produce. The adoption of information and communication technologies has played a pivotal role in India's development trajectory. Anuradha Singh (2020) underscores the growing significance of social media in agriculture, facilitating global communication among farmers and agribusiness professionals despite geographical distances. Surveys indicate a widespread use of platforms such as Facebook, YouTube, WhatsApp, and specialized agriculture-related apps to address agricultural challenges.

Undoubtedly, social media has significantly influenced the lives of rural residents, particularly in the realm of agriculture. These platforms have opened up numerous opportunities for farmers, notably by simplifying the commodity selling process through online programs that remove intermediaries.

1.3 Statement of the Problem

Despite the accessibility and significant potential of radio and television stations to disseminate knowledge, studies conducted in Tanzania indicate that farmers rarely utilize them as sources of agricultural knowledge. Additionally, research reveals that Tanzanian farmers have limited access to agricultural information. This study aimed to explore the factors influencing Tanzanian farmers' utilization of various media as sources of agricultural knowledge.

The mass media has long been recognized as a critical tool for fostering the political, social, and economic growth of rural communities. Therefore, it is imperative that the mass media be utilized as the primary vehicle for disseminating new developments. Every community requires full government support for rural development to ensure their comprehensive development and awareness of the state's economic status and basic needs.

Despite the transformative impact of information on both media and society, its influence remains significant in capturing people's attention. However, there is a tendency to have a limited perspective on media and allow our media usage habits to constrain our outlook. To effectively address societal issues using media, it is crucial to fully understand its breadth, scope, and usage. Developing a comprehensive understanding of media is essential to harnessing its potential to promote a culture of development.

With the increasing commercialization of media, there is a decline in its ability to represent public opinion, leading to more restrictions and obstacles in facilitating open and equitable dialogue between people and the media. In developing nations, media and information systems are often controlled by dominant urban-centric perspectives. To overcome this challenge, developing nations must explore alternative media programming concepts rooted in their local social and cultural contexts.

1.4 Area of the Study

This study was especially conducted in Tanzania, particularly in the Morogoro region, where 80% to 90% of the population is engaged in agriculture. This region

is known for its fertile land, adequate humidity, and semi-arid climate, making it conducive to farming activities. Morogoro ranks second in terms of area and fourth in terms of population within Tanzania. Consequently, the research specifically targeted the Gairo district of Morogoro due to its high concentration of smallholder farmers, accounting for 90% of its population. **(The national census of Tanzania 2022)**

1.4 a. Morogoro

Tanzania's Morogoro Region is the second-largest in terms of area, after Tabora, and the fourth-most populous, following Dar es Salaam, Tabora, and Mwanza. With a population of 3,197,104 and a surface area of 70,624 km² (27,268 sq mi), the region comprises seven districts: Morogoro Municipal, Malinyi, Ifakara, Kilombero, Gairo, Kilosa, and Mvomero. **The Tanzania national census of 2022, pg. 5** indicates that.

The Morogoro Region boasts a tropical savannah climate, characterized by frequent rainfall. The lowlands typically experience temperatures ranging from 18 to 30 °C annually, with an average of around 25 °C throughout the year. Cooler temperatures are usually observed from July to September. The region follows a bi-modal rainfall pattern, with long rains occurring from March to May and short rains from November to January. Rainfall levels vary between 600 to 1800 millimeters annually. Most of the Morogoro region consists of mountainous and hilly areas, where oxisols, deficient in nitrogen and phosphorus, are prevalent. Conversely, lowlands and valleys are characterized by fertile alluvial soils. Woodlands and grasslands typically contain sand and clay soils. Due to its diverse soil characteristics, the region is capable of producing a wide variety of crops, including maize, paddy, beans, cassava, potatoes, amaranths, vegetables, sugarcane, oilseeds, cocoa, cotton, cashew nuts, sisal, sorghum, millets, various fruits, cocoa, and coffee.

A significant portion of the land in the Morogoro Region is designated as arable land, primarily used for crop cultivation. Agriculture and related industries form the backbone of the region's economy, with agriculture serving as the primary

sector. Approximately 80–90% of the labor force in the Morogoro Region, totaling around 2,600,000 individuals, is engaged in agricultural activities (United Republic of Tanzania, 2022).

1.4 b. Gairo

The Gairo District Council is situated approximately 330 kilometers west of Dar es Salaam, 132 kilometers east of Dodoma, and 132 kilometers west of Morogoro Municipal. It is one of the nine District Councils in the Morogoro region, covering an area of 1,851.35 square kilometers. The district encompasses various agro-ecological zones, each influencing its climate differently. In higher elevations, annual precipitation can reach up to 1200mm, with sandy clay loam soils that are reasonably productive and well-drained. Flood plains in the district have black clay and loam soils suitable for maize agriculture, receiving an average rainfall of 600mm per year. Long rains typically occur from February to May, while short rains occur from October to December. The average annual temperature ranges from 25°C to 30°C. The landscape around Gairo, at an elevation of 1100 meters, consists of flood flats and steppe, with the Ukaguru and Unguu Mountains reaching heights of 2200 meters, forming the district's highest points.

Over 90% of the households in the Gairo District Council rely on agriculture as their main source of income, with maize and beans being the primary subsistence crops. On average, each household cultivates between 1.5 and 3.5 hectares of land. The district has a population of 480,000 people, with smallholder farmers constituting 90% (432,000) of the population, according to the Morogoro Region Socio-economic Profile, 2020. (Morogoro Region Socio-economic Profile, 2020)

1.5 Significance of the Study

The primary objective of this study is to investigate the role of mass media and new media in rural and agricultural development in Tanzania, particularly among smallholder farmers. Additionally, it aims to understand how the rural Tanzanian community's exposure to traditional mass media (such as news) and new media, especially social media, influences their perception of both types of media in

relation to development. The study seeks to determine audience preferences for accessing information on both media platforms by examining information preference as a moderator in the relationship between media exposure patterns and perceptions of traditional and new media, and the impact of media on rural and agricultural development.

By focusing on the Morogoro Region, this research intends to provide valuable insights for government officials, emphasizing the importance of effective communication with rural communities. It emphasizes the need for accurate and active communication to reach all target audiences effectively. Furthermore, the study aims to identify coverage guides and preferred information sources among rural communities, offering valuable guidance for policymakers on tailoring communication strategies to meet the needs of various groups, including farmers and rural residents.

Upon completion, this research will benefit both society and the government by providing recommendations on how to effectively manage and communicate information through different media platforms. Policymakers will receive guidance on effectively reaching and engaging diverse audiences, contributing to informed decision-making and promoting rural and agricultural development.

Government representatives and media outlets play a crucial role in reducing poverty in rural areas through their communication strategies. It is essential for them to carefully consider the content they write and broadcast in the media to effectively address the needs of their target audience and promote development. By providing relevant and engaging content tailored to the interests and concerns of rural communities, they can foster greater awareness and participation in initiatives aimed at poverty reduction. Additionally, by highlighting opportunities, resources, and success stories within rural areas, they can inspire confidence and optimism among residents, encouraging them to actively engage in efforts to improve their livelihoods. Overall, thoughtful and targeted communication efforts can contribute significantly to alleviating poverty and promoting sustainable development in rural communities.

1.6 Research Objectives

Main objective

The primary objective of this study is to examine the role of mass media in rural and Agricultural development in Tanzania especially to small holder farmers.

Specific objectives include:

- i. To a study the role of media in inculcating, adaptation of innovation and barriers in agriculture among small holder famers of Tanzania.
- ii. To explore the changes in agriculture practices in rural areas of Tanzania through media.
- iii. To find out the communication strategies being used by various agencies to promote agriculture.
- iv. To examine the role of media in the development of the rural areas in Tanzania.

1.7 Hypothesis

- i. Media contribute to the adaptation of agricultural innovations and address barriers among smallholder farmers in Tanzania
- ii. There are specific changes in agricultural practices can be attributed to the influence of media in rural areas of Tanzania
- iii. Distinct communication strategies employed by different agencies to promote agricultural development in Tanzania, particularly in rural regions
- iv. The role of media influences the overall development of rural areas in Tanzania.

1.8 Conceptual/Theoretical Framework

Theories provide a comprehensive overview of the nature and importance of theories and models in research. It emphasizes their role in explaining phenomena, making predictions, and guiding critical evaluation. Additionally, it

highlights the significance of theories in shaping the wider knowledge domains considered in research and their utility in quantitative research for evaluating conditions and mechanisms of occurrences. Overall, the paragraph effectively sets the stage for introducing the specific theories used in the research.

1.8. a Development media theory of communication

The Development Media Theory, as expounded by McQuail in his seminal work "Mass Communication Theories" (1987), serves as the cornerstone of the subject. This theory primarily seeks to elucidate the normative behavior of the press within nations categorized as developing. Its genesis can be traced back to the MacBride Commission established by UNESCO in 1979. Rejecting arbitrary authoritarianism, external dependence, and foreign dominance, the theory underscores the paramount importance of nation-building and economic development. It posits that press freedom should be subject to constraints in line with societal development objectives and economic priorities, with the state wielding ultimate authority in pursuing development goals. According to this hypothesis, the media holds the potential to expedite the process of growth in developing countries.

The Development Media Theory asserts that mass media usage can substantially contribute to the growth of a nation or society by addressing the public's information needs and enhancing their knowledge across various aspects of life.

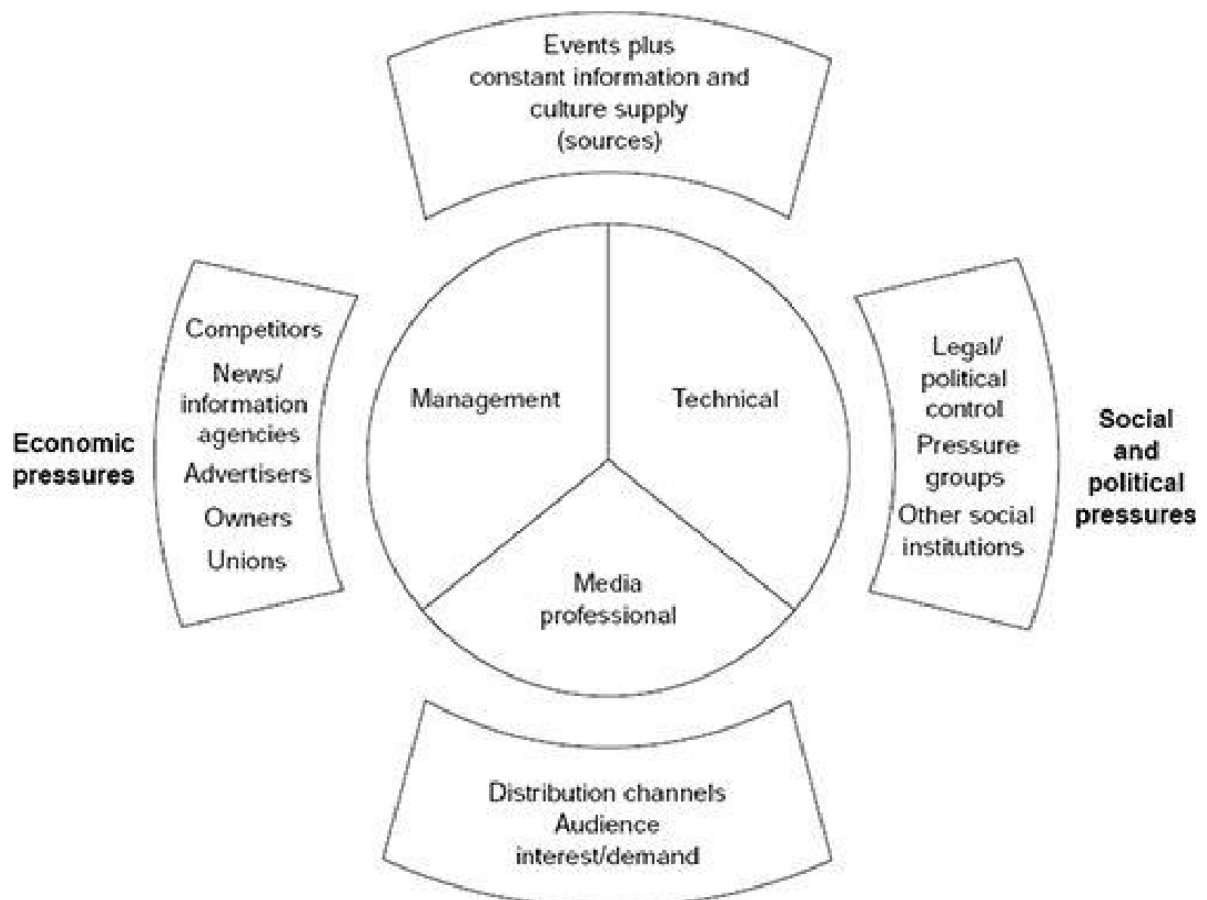
The scarcity of "useful information" for the general population poses a significant challenge in emerging nations like ours. Access to information is vital for individuals to make informed decisions and improve their standard of living. Therefore, the media plays a very crucial role especially in disseminating information to the public. In many Third World countries, which gained independence from colonial powers, educating the public about modern living was a daunting task. This was particularly crucial as a large portion of the population lacked access to formal education systems, a concern that persists to this day.

The development media theory advocates for the utilization of media for the collective benefit of the country. It emphasizes the role of media in

complementing government efforts by instigating initiatives that foster positive behavioral change among the population. The media are viewed as catalysts for development and social transformation in any society, thus they should be leveraged to promote progress and societal change. According to Okunna (1999), the development media theory acknowledges that certain freedoms of the press and individuals may need to be subordinated to national and economic advancement. This notion suggests that, to achieve the goal of nation-building, the government should have some control over both the media and the journalists working within it.

The theory is relevant to the research because it underscores the significance of media in driving societal progress. It highlights the influential role of media in shaping attitudes, behaviors, and perceptions within society. To foster social, political, and economic development, the media must be harnessed effectively, recognizing its potential to inspire positive change and empower individuals and communities.

Below is the diagram of development media theory; source; from Denis McQuail's- 6th edition, 2010



1.8. b Uses and Gratification Theory

The uses and gratification theory, which focuses on the audience's perspective, was initially formulated by American political scientist and communication theorist Harold Lasswell in 1940. This theory suggests that audiences play an active role in consuming media, using it to fulfill their specific needs and desires. Building upon Lasswell's work, theorists like Blumler, Katz, and Guarevitch expanded on this concept in the 1970s. They explored how media consumption patterns could be understood in relation to Maslow's Hierarchy of Needs, providing insights into why and how individuals engage with media content.

This theory's methodology provides insights into why individuals intentionally seek out specific media sources and content for their personal enjoyment. It elucidates how people actively seek media that not only fulfills their needs but also enhances their understanding of the medium, their social connections, and their entertainment. Audience members are believed to play an active role in interpreting and integrating media into their daily lives and routines. The theory posits that audiences have agency in selecting media that best aligns with their needs, suggesting that individuals use media to fulfill various gratifications and satisfactions. Consequently, according to this hypothesis, the media compete to satisfy viewers' preferences.



SOURCE: Blumler and Katz's (1974) Uses and Gratifications Theory (UGT)

Five distinct demands that audiences strive to satisfy through various media include:

- i. Acquiring information, which forms the core of cognitive demands.
- ii. Emotions, serving as the foundation of effective needs.
- iii. The need to socialize with others, such as family, friends, and coworkers, known as personal integrative need.
- iv. Self-esteem, forming the basis of a social integrative need. This involves comparing oneself to characters or events in the media to assess standing and gain credibility.
- v. Tension-free needs, addressing how individuals use media in diverse ways to alleviate stress.

Cognitive demands

People utilize media to acquire facts, knowledge, and other information. Some audience members have a strong desire for intellectual and academic knowledge, although this is not very common. Individuals have diverse needs; for example, quiz shows on television challenge viewers' factual knowledge, while staying informed about current events requires regular news consumption. Additionally, search engines on the internet are popular as they provide users with quick and unrestricted access to information on any topic.

Effective needs

Media plays a crucial role in fulfilling people's emotional needs, encompassing all human feelings, pleasures, and moods. For instance, viewers often turn to television shows or movies to satisfy their emotional demands, experiencing a range of emotions such as joy, sadness, or excitement. A prime example of this is when viewers of a movie or soap opera become emotional or even shed tears during a particularly poignant or tragic scene.

Personal integrative need

The need for self-esteem drives people to use media as a means to enhance their status, establish credibility, and affirm their sense of self-worth. Individuals may

engage with media content, such as advertisements for jewelry, furniture, clothing, and other products, to improve their perceived social standing and lifestyle. By consuming such media and acquiring associated products, individuals seek validation and reassurance of their respectability within society.

Social integrative need

The need for social interaction encompasses the desire to engage with one's family, friends, and broader community. In contemporary times, social networking platforms such as Facebook, Telegram, Twitter, Instagram, and WhatsApp have become instrumental in fulfilling these social needs. Rather than gathering physically, individuals often use these platforms to connect, communicate, and share experiences with others. For example, individuals may join a particular broadcast or social media group to bond with friends or neighbors over shared interests, fostering a sense of community and belonging.

Tension-free needs

People often turn to the media as a means of escaping from reality and relieving tension and stress. Activities such as watching television, listening to the radio, or browsing the internet can provide individuals with a sense of relaxation and mental decompression. Media has the power to captivate audiences by allowing them to emotionally connect with events and characters portrayed. However, it's important to note that individuals have diverse needs, and how the media satisfies those needs can vary greatly. For example, while some may find watching the news relaxing, others may find it tense or distressing. Despite the uniformity of the media, its utilization and impact differ among individuals based on their unique preferences and purposes.

Blumler and Katz identified five fundamental components of the Uses and Gratification Theory:

- i. Purposeful media consumption: Individuals actively seek out specific media content to fulfill their information needs. They are aware of where to find the information they require and intentionally select media channels accordingly.

- ii. Audience preference: Audiences have distinct preferences for the type of media they consume. They are well-informed about the media formats they prefer and seek out content that aligns with their interests and preferences.
- iii. Audience selection: Rather than passively consuming media, audiences actively choose the media platforms and content that best meet their communication needs. They select from a variety of media options based on their individual preferences and requirements.
- iv. Competition among media sources: Media outlets compete with each other to satisfy consumer demands. Traditional media platforms vie with modern media channels, offering diverse approaches to meet the diverse needs of audiences.
- v. Audience awareness and engagement: Audiences are conscious of their communication needs and motivations, allowing them to actively engage with media content. They assess and evaluate media experiences based on their individual demands, assigning value to different media platforms according to their personal preferences and experiences.

The uses and gratification theory posits that media audiences actively choose and consume content based on their specific needs and preferences, rather than passively absorbing information. This user-centered approach to media consumption underscores the audience's awareness of their communication objectives and their ability to select media channels that best fulfill those needs. By acknowledging the active engagement of audiences with media content, the theory suggests that media can effectively influence social change and advancement when messages align with the audience's values and motivations. This highlights the importance of tailoring media interventions to address the needs and preferences of the target audience, ultimately enhancing the potential for positive societal impact.

1.8. c. Diffusion of Innovation Theory

The Diffusion of Innovation (DOI) Theory, introduced by E.M. Rogers in 1962, is a foundational concept in social science that elucidates how new ideas, behaviors, or products spread within a society over time. Central to the theory is the notion

of adoption, wherein individuals within a social system gradually embrace and integrate novel concepts into their lives. Rogers delineates five distinct stages in the diffusion process: awareness, interest, evaluation, trial, and adoption. These stages are representing the progressive acceptance of an innovation, with individuals transitioning from mere awareness of the idea to its full-scale adoption. The rate and the extent of adoption are influenced by various factors, including the perceived benefits of the innovation, its compatibility with the existing norms and values, and the presence of facilitating conditions that ease its adoption.

At the societal level, the diffusion of innovation occurs through the interaction and communication among members of a community. Innovations initially take root within a small, early adopter segment of the population before gradually spreading to the larger majority. Rogers identifies different types of adopters based on their propensity to embrace innovation, ranging from innovators and early adopters to the early and late majority, and finally, laggards. Each adopter category plays a role in the diffusion process, with innovators and early adopters often serving as influencers who pave the way for wider adoption. Additionally, the diffusion process can be influenced by external factors such as communication channels, social networks, and the socio-economic context of the society, all of which shape the trajectory and scope of innovation dissemination.

In the diffusion process of an innovation within a social system, adoption does not happen uniformly or instantaneously; instead, it unfolds gradually across distinct segments of the population. Research indicates that individuals who embrace innovations early possess different characteristics compared to those who adopt them later. Recognizing these traits among the target demographic is essential for effectively promoting the innovation within that group. By understanding the predispositions, preferences, and needs of early adopters, innovators can tailor their strategies to appeal to this influential segment, thus accelerating the adoption process. Conversely, identifying potential barriers or resistance factors among later adopters allows for the development of targeted interventions to mitigate

obstacles and facilitate wider acceptance of the innovation within the social system.

While the majority of the population typically falls within the middle categories of adopter types, understanding the traits and tendencies of the intended audience remains crucial. This comprehension enables innovators to employ tailored strategies aimed at appealing to the diverse adopter demographics. By recognizing the unique preferences, attitudes, and concerns of each adopter group, promotional efforts can be customized to address specific needs and barriers to adoption. For instance, early adopters may respond favorably to messages highlighting innovation and novelty, while later adopters may require reassurance regarding reliability and proven benefits. Employing a nuanced approach that considers the distinct characteristics of each adopter segment enhances the effectiveness of promotion efforts and facilitates broader acceptance of the innovation within the target population.

1. Innovators are characterized by their adventurous and curious nature, often eager to be the first to embrace new ideas or technologies. They thrive on novelty and are willing to take risks in pursuit of innovation. Given their innate openness to experimentation, little persuasion is typically needed to appeal to this demographic, as they are naturally drawn to pioneering concepts.

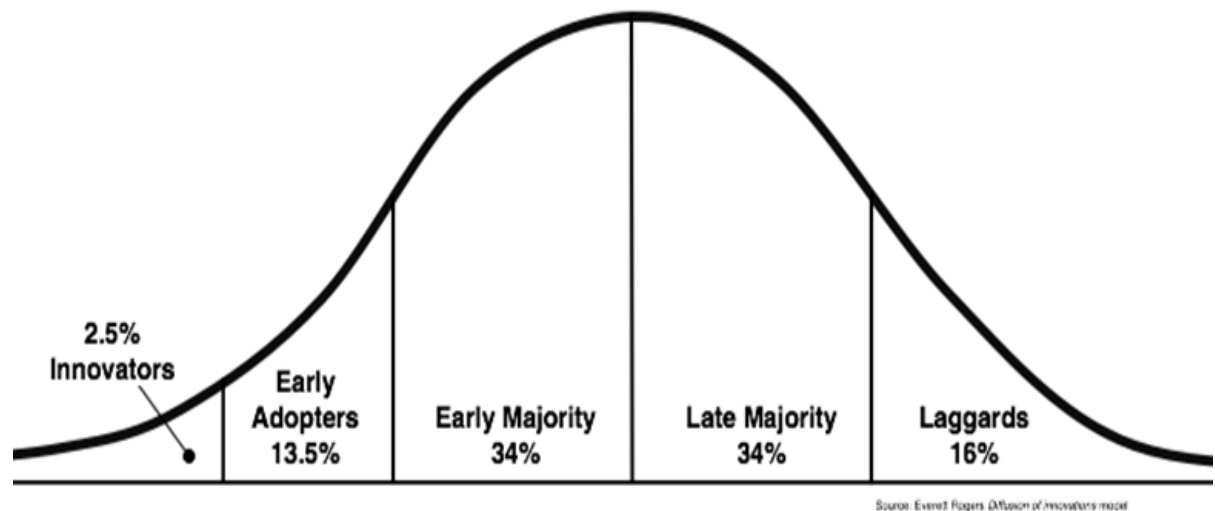
2. Early Adopters, comprising opinion leaders and influencers, exhibit a willingness to embrace change and assume leadership roles in adopting new innovations. They are proactive in seeking out novel ideas and are comfortable with taking on the risks associated with early adoption. To engage this group, providing practical guidance and implementation resources can be effective, as they are already motivated to explore new concepts and drive change within their communities.

3. The Early Majority represents individuals who are more cautious in adopting innovations but are open to change once they see evidence of its effectiveness. They seek reassurance and tangible proof of success before committing to new

ideas. Demonstrating real-world success stories and providing empirical evidence of the innovation's benefits can help sway this demographic toward adoption.

4. Late Majority adopters are characterized by their reluctance to embrace change and their tendency to follow the crowd rather than take initiative. They are cautious and skeptical, preferring to wait until an innovation has gained widespread acceptance before considering adoption. Appeals to this group often focus on the growing number of adopters and the social proof of an innovation's effectiveness.

5. Laggards are the most resistant to change, clinging tightly to tradition and exhibiting strong aversion to novelty. Persuading this group to adopt new ideas is challenging, requiring tactics such as presenting statistical evidence, leveraging fear-based arguments, and emphasizing peer pressure from other adopter groups to encourage acceptance of change.



Source: <http://blog.leanmonitor.com/early-adopters-allies-launching-product/>

Process for the Diffusion of Innovation Model

The diffusion of innovation model outlines the five-step process through which individuals decide to adopt a new innovation. It begins with the knowledge stage, where users become aware of the innovation and engage in preliminary research to understand its functioning. Subsequently, in the persuasion stage, users form

opinions about the innovation based on their research findings. The decision stage follows, during which users deliberate on whether to adopt the innovation or not. Upon deciding to adopt, users proceed to the implementation stage, where they put the innovation into practice and evaluate its effectiveness in achieving their objectives. Finally, in the confirmation stage, users assess the outcomes of their decision to adopt the innovation, confirming whether it has met their expectations and needs.

The process of innovation adoption involves several stages, including awareness of the innovation, deciding whether to adopt it, initial use to test its efficacy, and ongoing utilization. These stages contribute to the dissemination of the innovation throughout a population. The decision to adopt an innovation is influenced by five key factors, which are present to varying degrees across different adopter categories. These factors include the perceived relative advantage of the innovation compared to existing alternatives, its consistency with the values and the needs of the potential adopters, the complexity involved in understanding and using the innovation, the ease with which the innovation can be trialed before full adoption, and the extent to which the outcomes of using the innovation are observable and quantifiable.

These five key elements play significant roles in the adoption of innovations:

1. **Relative Advantage:** This refers to the perceived superiority of the innovation over existing alternatives. If an innovation offers clear advantages, such as increased efficiency, cost-effectiveness, or convenience, it is more likely to be adopted by individuals or organizations.

2. **Consistency:** The extent to which an innovation aligns with the existing values, needs, and experiences of the potential adopters influences its adoption. Innovations that fit well with the beliefs and practices of the target audience are more likely to be embraced.

3. Complexity: The complexity of an innovation refers to how difficult it is to understand and use. Innovations that are simpler and easier to comprehend are generally more appealing to adopters, as they require less effort to implement and integrate into existing routines.

4. Trialability: Trialability refers to the degree especially to which an innovation can be experimented with or tested before full adoption. Innovations that allow for trial periods or pilot testing enable potential adopters to assess their suitability and benefits before making a commitment.

5. Observability: The observability of an innovation relates to its ability to provide tangible and quantifiable results. Innovations that yield visible outcomes or measurable improvements are more likely to garner support and adoption, as their impact is readily apparent to observers.

Diffusion of Innovation Theory has found practical applications in various fields, including marketing, public relations, social work, agriculture, and public health. In the realm of public health, this theory is utilized to accelerate the adoption of crucial public health initiatives aimed at modifying the behavior of entire social systems. By applying the principles of Diffusion of Innovation Theory, public health interventions are designed and implemented with the goal of encouraging adoption by members of the targeted social system. To achieve optimal uptake of public health programs, it is imperative to thoroughly understand the characteristics of the target population and the factors influencing their adoption rates.

Singer's theory of innovation dissemination, as outlined in 1998, has been employed in research to analyze the utilization of new media. This theory, rooted in diffusion research, provides a systematic framework for studying the introduction and dissemination of new technologies, ideas, and information. By applying Singer's theory, researchers can gain insights into the processes through which new media platforms are adopted and integrated into society, offering valuable guidance for understanding the dynamics of media dissemination and its impact on societal behavior and communication patterns.

1.9 Ethical Consideration

Ethical considerations are paramount in research endeavors, as highlighted by Flick (2015). In this study, adherence to ethical standards was ensured through various measures. Firstly, the researcher obtained informed consent from all respondents before collecting primary data, ensuring they were fully aware of the study's purpose and their involvement. Moreover, strict compliance with relevant laws and regulations was observed throughout the research process. It was made clear to the participants that their data would be used solely for academic purposes and would not be exploited for commercial gain. Importantly, respondents were granted the freedom to withdraw from the study at any point if they felt uncomfortable or unwilling to continue, thereby upholding their autonomy and right to privacy. Overall, these ethical safeguards were implemented to uphold the integrity of the research and respect the rights and welfare of the participants.

CHAPTER 2

LITERATURE REVIEW

In this chapter, the researcher explored a variety of literature sources, including books, theses, dissertations, research papers, and articles, that are pertinent to the topic in order to uncover established findings, observations, and suggestions. Hence, the current chapter aims to present a review of literature and empirical studies concerning the role of the media especially in agricultural and rural development.

2.1 Traditional Mass Media versus New Media

Kumar et al. (2021) suggest that the rural population of a nation tends to prefer traditional methods of treatment due to their easy availability and lower cost. Similarly, **Sunil Patel et al. (2022)** conducted a study comparing the credibility of news from social media, television, and newspapers. Their findings indicated that the respondents' level of education and internet expertise influenced their choice and belief in news sources. Additionally, individuals who rated television and newspaper news as more credible than social media attributed this to the perception that news from these traditional sources is generated by well-trained personnel.

However, according to **Boonchai Hongcharu et al. (2009)**, senders of messages utilizing the Internet have the flexibility to provide more extensive details about their goods or services. Unlike traditional media, the Internet isn't limited by time or location, enabling the inclusion of various formats such as text, videos, and audio. This characteristic renders the Internet an ideal channel for goods or services associated with high involvement purchasing habits, such as financial products, real estate, healthcare services, cosmetics, jewelry, and agricultural products. The Internet's capacity to offer precise and comprehensive information caters to the specific needs of customers in these sectors, making it a valuable tool for marketing and communication.

Building on the work of the previous review, this review as highlighted by the **Indeed Editorial Team (2021)**, will explore the impact of the traditional and digital media on the present distinct characteristics, yet leveraging both can prove

advantageous for companies aiming to reach their target audiences effectively. Advertising through digital media offers the advantage of real-time campaign data assessment, enabling immediate adjustments as needed. On the other hand, traditional media retains its ability to reach a broad audience simultaneously. By conducting a comprehensive analysis of consumer behavior and trends, companies can strategically determine which channels to incorporate into their advertising efforts, optimizing their reach and impact.

Furthermore, this review of Mistura **Adebusola et al. (2020)**, will consider the audience's preferences for information on a particular medium are shaped by their preexisting ideas and interests, highlighting the influence of media content on confidence in the media. Despite the rise of digital media and its strong competition with mainstream media, traditional news sources continue to be perceived as reliable by many individuals. However, while traditional media may receive higher credibility ratings, it's crucial to acknowledge that ratings for news and information across both traditional and digital platforms are typically only average. This suggests that there remains significant skepticism regarding the effectiveness and dependability of information from both types of sources.

In contrast of the previous review, the **Oluwanifemi Kolawole (2020)** asserts that the evolution of communication driven by technology has significantly streamlined procedures. Particularly, social media plays a vital role in information dissemination, a primary function of news media. As digital journalism faces increasing pressure to compete and adapt, social media platforms have emerged as crucial channels for the rapid spread of information.

Moreover, the research conducted by **Ferro et al. (2010)** suggests that an effective e-government strategy should incorporate Information and Communication Technology (ICT) technologies, enabling circumstances, and institutional reforms. The authors advocate for leveraging social media as a means of information dissemination and interaction with citizens, consumers, or clients, which can potentially influence developmental changes, similarly to **Ide-Smith et al. (2011)** further emphasize the significance of social media in facilitating the

quick and easy production, distribution, and consumption of information, knowledge, and entertainment. Unlike traditional forms of communication, social media enables real-time interactive conversations among multiple parties, regardless of geographical location.

In addition, **Anne E. Howard (2012)**, in her book "Connecting with Communities," emphasizes the role of the social media in enabling the local governments to engage with citizens effectively. She highlights that social media platforms offer opportunities for people to interact and share various forms of content, including text, images, audio, and video. Howard underscores the power of social media in disseminating news and information swiftly and facilitating easy connections among individuals, surpassing the capabilities of other communication channels.

While the **Accenture (2012)** underscores the continuous evolution of social networking platforms and new technologies, providing users with access to increasingly advanced capabilities. The rapid advancement of technology is reshaping the way people utilize various media forms, including television, movies, music, talkback radio, and social media. This progress has led to a trend where individuals often engage with multiple media platforms simultaneously. This review goes along with the **Boyle et al. (2009)** whereby introduced a framework wherein citizen participation is depicted on a scale ranging from information to decision-making. At the lower end of the scale, citizens have minimal influence over decision-making processes, while at the top, they possess the greatest control, often through collective action and support. When communities and local governments collaborate to deliver local services, it is referred to as "co-production," representing the highest level of citizen participation. This concept aligns with the government's localism program, known as the "Big Society," which is founded on principles of co-production (**Sherwood and Slay, 2010**).

On the other hand, **Thakur, Sugandha Shekhar (2020)** highlights the impact of the digital age on print media, noting that while print media maintains a strong position in the media landscape, its circulation is experiencing a daily decline. The rise of digital media has transformed the way people interact globally,

offering diverse products and services that are easily accessible to consumers. While **Ravia Gupta (2021)** investigates the evolution of the media ecosystem and the influence of social media on modern journalism. He observes a shift away from reliance on traditional information sources, with journalists increasingly utilizing social media platforms to consume, produce, and share media content.

In addition to that, **Boyd-Barrett (2000)** explores the utilization of new media or digital media by journalists in developing countries, particularly focusing on the experience of local journalists in Tanzania. The study sheds light on how journalists in these regions adapt to the emergence of new media, a trend also observed in media houses across other developing countries.

For instance, **Diyamett et al. (2010)** highlight the adherence to the country's Information and Communication Technology (ICT) policy, with significant contributions from the private sector through substantial investments. They note a significant milestone in the liberalization of telecommunications with the establishment of the Tanzania Communications Regulatory Authority (TCRA) in 2003, serving as an independent agency tasked with regulating communication industries, including the media and new media platforms. Meanwhile **Goodiel (2021)** discusses the impact of technology on global culture in the era of globalization. He emphasizes that technological advancements, such as the internet, satellites, and cable television, have transformed the likelihood and feasibility of a global culture. These technologies have played a role in breaking down cultural barriers and facilitating connectivity on a global scale. However, Goodiel notes that social skills are crucial for effectively navigating social media platforms, particularly in developing nations where technical skills may be lacking due to lower levels of education. In such contexts, users often rely on their social networks for assistance when encountering online challenges. He also highlights that previous research has primarily focused on the role of technological abilities in enhancing social media usage.

Also **Mercer (2005)** emphasizes the significant role of the Internet in shaping Tanzania's Information and Communication Technology (ICT) elites into knowledgeable and productive citizens, thereby stimulating national economic

growth. Additionally, he notes that among Tanzanians, the Internet has become a symbol of modernization, with its usage indicating the level of development in both individuals and communities. Currently, Internet usage in Tanzania is predominantly focused on leisure, communication, and accessing information related to global popular culture. In the same vein **Meetika (2013)** suggests that social networking sites can contribute to the development of a more participatory, innovative, and inclusive governing model. Through these platforms, governments can not only disseminate the information about their policies along with the plans but they also engage in two-way communication with citizens, by allowing for the immediate feedback and the incorporation of the suggestions from ordinary people to enhance governance practices.

Similarly, **Sethi Kamuhanda (2000)** highlights the Tanzanian government's effective utilization of national media services for mobilizing the populace on various domestic issues. To achieve success in this endeavor, the media must possess the necessary knowledge and authority to write authoritatively on relevant subjects. Kamuhanda suggests that the Tanzanian government demonstrates a relatively open attitude towards the media, which facilitates their role in informing and engaging the public on important matters.

2.2 Media and Rural Development

Rampal (2019) underscores the transformative impact of the social media on the lives of rural residents, particularly in the realm of agriculture. Social media platforms have provided farmers with various opportunities, simplifying the process of selling their produce through online programs that eliminate intermediaries. The introduction of information and communication technology has been instrumental in driving development in India. Rampal suggests the need for innovative strategies that link the construction of basic information and communication infrastructure with the development of social and human infrastructure to accelerate rural growth. Although regarding the discussions from **<http://www.nious.ac.in> (2020)**, traditional performances have experienced an expanded reach due to electronic media such as radio and television. Additionally, the content of electronic media channels has been enhanced by incorporating

elements from traditional media, such as captivating colors, costumes, dance, and music. To effectively reach and engage rural audiences, many academics advocate for combining traditional and technological media for faster information dissemination. They emphasize the importance of including traditional media in any communication strategy aimed at rural development.

In her analysis of the media's role in civil society, **Syeda Hameed (2012:91)**, a former member of the Indian Planning Commission, emphasized that civil society serves as an organization that addresses concerns affecting the entire community. To facilitate India's sustainable growth, Hameed urged the media to play a crucial role in articulating societal issues and providing relevant solutions. She explored new avenues for the media's meaningful engagement within civil society movements, emphasizing the importance of media participation in addressing and resolving societal challenges. Also **Sevant Ninan (2013:149)** observes the increasing necessity for the media to engage with civil society, particularly in television programming. He notes that data and viewpoints from subject matter experts are frequently sought out for panel debates or to sustain program content. Ninan emphasizes that civil society organizations possess valuable information and insights gained from engaging with local communities and understanding their issues. He suggests that the media should actively seek out these sources that have already done the groundwork, highlighting the importance of active media support for civil society in the present day.

Moreover, **Wall (2014:210)** investigated local government in the twenty-first century from the perspective of the Commonwealth. He notes the growing significance of local governments in achieving sustainable development objectives. The study covers various themes, including decentralization in regions such as the Caribbean, Pakistan, and England, local government finance and economic development in countries like India, South Africa, and Tanzania, and new governance approaches in nations like Canada, Australia, and New Zealand. Wall provides a comprehensive overview of the legal and administrative history related to local governance and advocates for democratic decentralization and social mobilization as key strategies for realizing sustainable development goals. In contrast to **Lysa John (2012:103)**, Global Campaign Director of the Global

Call to Action against Poverty, the notion of civil society has only recently gained traction. Whereby, John argues for a broader interpretation of civil society beyond the traditional understanding of citizen activity for societal betterment. She emphasizes that civil society encompasses all citizen-based organizations addressing broader social or political change and undertaking work not typically handled by governments or the business sector. John asserts that civil society is not solely reliant on contributions from traditional NGOs. However, she criticizes the influence of market forces on the media, stating that instead of investing in inclusive and sustainable development for marginalized groups, media entities prioritize financial viability.

However, **Rout (2010:179)**, in examining local self-government in Russia and India, notes the historical neglect of local self-government issues by the federal government, leading to adverse effects on living standards in urban and rural areas. The study highlights the close relationship between the financing of local government operations and the reform of local self-governance. Rout emphasizes the importance of balancing the revenues and expenditures of municipal and rural localities for effective local governance. Similarly to **The North Carolina Department of Cultural Resources (2010:151)** examined the utilization of the social media by local governments in the state, highlighting its effectiveness in facilitating interaction and engagement with the community. The report emphasizes that social media will continue to influence and support how government officials interact with constituents, contributing to the establishment of an accountable and transparent system of governance. It suggests that local governments should utilize social media to balance the citizens' need for information access with the security of their central network.

In the same vein, **Mossberger and Wu (2012:143)** conducted a study on the use of social networking sites by local government bodies in America. They found that local government websites are maintained to provide various departments and the general public with information on administrative and developmental initiatives. Over time, social networking sites have become significant platforms for participatory growth and communication. The study recommends that social media should be purposefully and strategically used for grassroots communication

and development in the present day. Likewise, In his evaluation of citizen involvement in local administration in India, **Sheikh (2014:193)** concluded that the government represented the most potent form of local governance. His study revealed that Indian local governments acknowledged the importance of the citizen participation in the governing process. Sheikh proposed that in a pluralistic country like India, urban municipal administrations should actively promote significant agreements to foster the growth of social capital.

Additionally, **Sumana (2014:199)** examined municipal administration in India and found that when there is social and technological readiness in relation to implementation determinants, local governments operate more effectively. Despite facing certain practical constraints, the study demonstrated that local development was better facilitated under a local arrangement setting. Sumana recommended adapting imported technology to local needs wherever appropriate to enhance acceptability and mitigate resistance to crucial technical advancements. This review differ from **Oliver and Ohlbaum Associates Limited's analysis of modern media consumption patterns (2013:155)**, they highlights the decline of the newspaper sector due to the dominance of television and Internet-based communication tools and services. The study reveals that individuals' consumption of news is influenced differently by various media platforms, depending on their goals, subjects of interest, or moods. Additionally, the study emphasizes that different sources are accorded varying levels of trust, indicating that not all sources are perceived equally reliable.

Mean while, In Cambodia, the UNDP-funded BBC Media Action launched a multimodal intervention aimed at providing essential information about democratic institutions and civic engagement to young people aged 15 to 24. This intervention utilized television, radio, online and mobile content, as well as live events. According to the evaluation conducted by BBC Media Action, **Research and Learning (2014:26)**, the study found that engaging youth through multimedia campaigns can enhance civic participation, promote participatory communication, and foster growth in contemporary civil society, which is in

contrast to **Chavez et al. (2010:53)** after conducted an analysis of social media use in local government organizations in America and found that while social media improved the ability of local governments to interact with their constituents, they could not completely replace established emergency management and communication systems. The study revealed that social media were primarily used to supplement an organization's ongoing disaster management initiatives. The authors recommended that local government administrators carefully consider whether social media would benefit their communities and make informed decisions regarding its implementation.

Furthermore, **Lemish and Caringer (2012:121)** investigated the role of the media in civil society and observed that media activities necessitated a departure from commercial and marketing paradigms towards a focus on development communication. Their study indicated that a significant communicator would be guided by a rights-oriented and civil society-driven vision of the social change, critiquing the corporate and marketization of Civil Society Organizations (CSOs), and adopting lateral, holistic supervision and management techniques to support communication efforts aimed at fostering societal development. However the **Duggan and Brenner (2013:68)** examined the demographics of social media users and found that younger individuals were more likely to use social media compared to older adults. Their research revealed that women, African-Americans, and Latinos expressed a strong interest in social media platforms such as Twitter, Instagram, and Pinterest. The academics recommended that social media be used judiciously as a tool for development and participatory communication across all aspects of life.

Apart from that, **Sadrudin (2013:184)** conducted research on the role of the media, non-governmental organizations (NGOs), and civil society in fostering pluralism in Pakistan. The study highlighted the significant contributions of these three sectors in promoting civil rights and fostering social and economic growth in both urban and rural communities. According to Sadrudin, pluralism and sound governance are essential prerequisites for advancing humanity in all spheres of existence. The researcher also emphasized the potential for

collaboration between the civil society sector and independent media to further advance pluralism and development efforts. Also **Bharigav, D.H (2015)** emphasizes the social responsibility of non-governmental organizations (NGOs) to inform the public about the various welfare and development programs implemented by local self-government authorities. He argues that NGOs should act as intermediaries, bridging the communication gap between the public and government bodies, and educating elected officials about their social, political, and developmental obligations. As proactive guardians of the public interest, NGOs are tasked with ensuring that products and services are provided in a fair and equitable manner. In today's society, these organizations must also play a crucial role in the local governance process. Bharigav suggests that to initiate awareness campaigns and encourage active participation in community development, local self-government entities and NGOs should collaborate under a unified platform. This merger would facilitate greater coordination and synergy in addressing local issues and fostering community development initiatives.

This review of **Narayanappa, E. (2004)**, highlights the crucial role of mass media in facilitating the growth and modernization of society. He asserts that mass communication networks and media intervention programs are essential for achieving modern society's development objectives. The evolution of mass communication has led to revolutionary developments, with mass media outlets such as print, film, radio, and television possessing the remarkable ability to disseminate development information to a large audience globally in the shortest possible time. Likewise to **Franklin (2009)** In his work "Using Traditional Drama Forms For Social Change," argues that mainstream media's influence on the attitudes, behaviors, or decision-making of rural populations is limited. He advocates for the utilization of traditional media due to their reinforcing effects, particularly in rural or illiterate communities. Franklin suggests that traditional media can complement mainstream media by exerting a stronger influence on the motivational, behavioral, or attitudinal characteristics of these populations. While mainstream media excel at swift information dissemination, traditional media have been found to play a significant role in shaping the attitudes of the majority

of illiterate individuals. Franklin emphasizes the importance of skilled resident folk media practitioners in internalizing messages related to agricultural practices, family welfare, and health, thus ensuring democratic and participatory communication processes.

In addition, **Mehta and Kalra (2006)** argue in their article "Information and Communication Technologies: A bridge for social equity and sustainable development in India" that the use of Information and Communication Technologies (ICT) can contribute to lowering poverty by improving the poor's access to government, financial, and health services. They highlight India as a conducive environment for innovative developments in rural areas by both governmental and commercial entities. Rural communities in India have historically faced challenges due to limited access to basic information, which has hindered their economic development. Whereby it goes along with **Carley (1996)** when he suggests that the media plays a crucial role in helping people overcome these shortcomings through effective communication. Rural development, according to Carley, involves promoting the overall well-being of rural residents by implementing appropriate economic activities and enhancing literacy and health standards through knowledge sharing and empowerment. It is anticipated that the dissemination of information through appropriate communication channels will accelerate social homogenization. Advanced technology is deemed necessary to effectively promote rural development through communication efforts.

It is widely recognized that mass media plays a crucial role in raising environmental awareness among rural populations and disseminating innovative agricultural technologies. To enhance rural development, there should be a focus on effectively utilizing information channels to distribute knowledge and information about the environment and agricultural practices among rural communities. However, **Agarwal (2006)** argues that while the country's communication strategy appears proactive for rural development, it tends to be "pro-rich" in metropolitan areas. Moreover, commercial programming influenced by profit-driven market forces is starting to dominate programming schedules and

content, prioritizing the educated and developed segments of society rather than serving the underserved sectors.

Besides of that, **Dagron (2009)** emphasizes the importance of communication for rural development and social change in bridging the gap between decision-makers who shape policies and allocate resources and rural communities working towards development. Rural Indian farmers, often impoverished and lacking formal education, face significant challenges in accessing information and education about modern farming techniques. They also lack easy access to high-quality agricultural inputs and essential data such as accurate weather forecasts, which could help improve crop yields. These inefficiencies in information access and input availability contribute to higher transaction costs and reduced potential revenues for rural farmers in India. in the same way In "Communication Technology and Rural Development In India: Promises and Performances," **Agarwal (2006)** advocates for the integration of traditional and contemporary media, emphasizing the importance of continuing to produce traditional media alongside modern media. Agarwal suggests that traditional media not only support development efforts but also play a vital role in preserving and conveying culture, customs, and values to future generations.

Moreover, Effective communication is essential for rural residents to lead fulfilling lives, as highlighted by **Asemah (2011)**. Asemah emphasizes the necessity of accurate information for rural residents to understand governmental activities and make informed decisions. Given that rural residents are responsible for supplying food to the country, they require information on various topics, including managing farm earnings and accessing government loan opportunities. Additionally, rural residents need knowledge on agriculture, family planning, weather, healthcare, and other relevant subjects. Asemah concludes that when rural residents do not receive necessary information in a coordinated manner, they lose faith in the government and society at large. Thus, ensuring access to comprehensive and timely information is crucial for fostering trust and facilitating rural development. This goes along with **K. Y. Muhammad (2016)** In his work, underscores the pivotal role of rural radio in promoting development in rural

areas. He argues that as development-related issues are presented to audiences through various programs and people are exposed to social events via listening to these programs, rural radio becomes a catalyst for development. Muhammad emphasizes that communication serves as the fundamental building block for interaction and information sharing in life. It facilitates the interchange of ideas, strengthens the sense of community, enables the exchange of messages, and translates thinking into action. According to Muhammad, radio communication plays a crucial role in informing listeners about contemporary social issues, including politics, business, and current events, thereby raising awareness among rural communities. By understanding their rights and obligations to the community, individuals are motivated to work towards achieving common goals as inspired by radio broadcasts. In essence, rural radio serves as a powerful medium for disseminating information, fostering community engagement, and driving development initiatives in rural areas.

In any society, rural news coverage plays a fundamental role in promoting grassroots development. **Nwabueze (2010)** argues that through press coverage of rural areas, government officials, policymakers, change agents, and other stakeholders become aware of the development needs in these regions. But, **Ndolo (2006)** further suggests that some communication scholars advocate for the increased utilization of indigenous communication channels for rural development, citing limited success with modern mass media applications in rural areas. For instance Radio stands out as a crucial medium for enlightening, entertaining, and educating the public. For instance **Abdullahi T. A. (2011)**, explained that, radio serves as an electronic medium through which social, cultural, political, and technological ideas can be disseminated, contributing positively to rural development. Due to its accessibility, affordability, and widespread acceptance, radio becomes an effective tool for educating, informing, and socializing rural communities, especially considering the high rates of illiteracy in these areas. Unlike other forms of media, radio does not require complex equipment or literacy skills, making it accessible to a wide audience and facilitating communication on developmental issues at any time.

Additionally, according to **Ekta Bansal (2015)**, mass media, encompassing radio, television, newspapers, and magazines, plays a crucial role in enabling people to express their thoughts and voices. Bansal emphasizes that the media's purpose should be to disseminate information about development plans and involve the public in decisions that affect them. There are significant differences in the media landscape across urban and rural areas, as well as among different regions and nations, with a primary focus on rural development in many instances, particularly in rural India. In regions where the benefits of the internet have yet to materialize, the function of the media becomes even more crucial for residents. The media serves as a vital source of information and communication for rural communities, facilitating their participation in development initiatives and decision-making processes. As such, the media plays a very critical role in bridging the gap between policymakers and rural residents, ensuring that their voices are heard and their concerns addressed in the development agenda.

2.3 Rural Development and Women

According to **Hossain and Islam (2012)**, women's empowerment and education have been significant issues in Bangladesh for the past three decades. Rural women, particularly, require education in agriculture and animal husbandry to participate in socioeconomic development. However, these women often have limited access to informational resources, rendering them underutilized national resources. Hossain and Islam argue that if rural women are properly involved in development efforts and provided access to pertinent information through information centers, the entire nation would benefit economically.

On a similar note, **Sri Jothi, P (2012)** emphasizes the role of science and technology communication in advancing the socioeconomic status of people in India. Despite advancements in urban areas, rural parts of the country still lag behind in terms of technology adoption. Sri Jothi suggests that efficient use of media can encourage rural women to participate in developmental activities related to science and technology. By disseminating relevant scientific and technological messages, the media can play a crucial role in bridging the

technological gap and empowering rural women to contribute to the development process.

In addition, **Basanta (2010)**, addressing the diverse economic and social issues affecting rural women, such as agriculture, housing, health, nutrition, family planning, population growth, environment, and education, requires tailored communication strategies. Rural women in developing nations have unique communication needs compared to their urban counterparts in industrialized nations. Factors like limited mobility, lack of education, and male dominance over information and media hinder rural women's equal access to information. Basanta emphasizes the importance of presenting information in ways understandable to illiterate women and utilizing effective communication routes tailored to their needs. Furthermore, producing materials in regional languages is crucial. Given that rural women participate in various activities, their traditional knowledge systems are rich and complex. Likewise **Vani (2007)** when supports this notion in her work "A Study On Knowledge And Adoption Of Selected Health And Nutritional Practices By Rural Women In Belgaum District," highlighting the positive impact of social involvement on rural women's knowledge levels. She observes that increased participation in social organizations correlates with higher levels of knowledge among women. Additionally, engagement with other members facilitates the sharing of knowledge and ideas. Vani notes that women who engage in activities such as reading newspapers, magazines, listening to the radio, and watching television shows are more likely to learn about healthy eating and health habits. Thus, social involvement plays a crucial role in enhancing rural women's knowledge and adoption of beneficial practices.

The utilization of radio and television to empower rural women in decision-making processes regarding their livelihoods requires a communication strategy that ensures the issues at hand are perceived similarly by all groups involved, including women, men, elders, and youth. This strategy is essential because perceptions and local knowledge significantly influence development outcomes. Women who actively engage in communication activities independently contribute to generating, analyzing, and presenting material that highlights the

perspectives and voices of women. Visual approaches and group facilitation techniques are employed to amplify women's voices in these processes. Development communicators working with rural women must establish communication initiatives grounded in women's experiences. This approach ensures a heightened sensitivity to women's needs, goals, skills, and knowledge. By incorporating women's perspectives and experiences into communication strategies, development initiatives become more inclusive and effective in addressing the diverse challenges faced by rural communities. Such as **Ganesamurthy (2008)** underscores the importance of this approach in fostering women's empowerment and enhancing their participation in decision-making processes.

2.4 Media and Agriculture Development

Mtega (2018) conducted a study focusing on Tanzanian farmers' utilization of radio and television as informational resources for farming. The research revealed that radio enjoys wider availability and ownership among farmers compared to television. Both radio and television were identified among the seven sources of agricultural information considered in the study. Factors such as accessibility, gender-based labor division, language, the frequency of programs broadcast, and awareness of broadcasting schedules were identified as influential in farmers' utilization of these media sources for obtaining agricultural information.

Contrary to television and newspapers, the study found that radio was the most commonly utilized source of information in the study area. Agricultural information obtained through radio was generally deemed relevant to respondents' farming activities. In contrast, exposure to agricultural news through newspapers and television had only a minimal impact or partial relevance on their farming operations. **(Bernard, R.T. & Frankwell W. Dulle, 2014)**

Moreover, according to **Hatem, A. A. (2011)**, it is crucial to explore innovative approaches that integrate social and human infrastructure development with the establishment of basic information and communications infrastructure to accelerate rural growth. The emergence of NGOs and the use of the internet offer various examples demonstrating impact, including the role of social media

platforms like Facebook and initiatives promoting development and social responsibility. Social media has undeniably influenced rural residents' lives, particularly in agriculture, where it has provided farmers with numerous opportunities and simplified the process of selling crops through online schemes, eliminating intermediaries.

The importance of information cannot be overstated in contemporary industries, particularly in agriculture. Information plays a crucial role in enhancing and attracting the productivity across various sectors, including agriculture. Through the use of information and communication technologies (ICTs) and media tools, knowledge management has been facilitated, leading to advancements in agricultural development (**Rao, 2007**). However, to effectively integrate these technologies and tools into the development process, significant efforts are required at multiple levels. Overcoming obstacles and successfully integrating ICTs and media tools into agricultural development processes necessitates considerable attention to policy formulation, institutional networking, and capacity building initiatives. These measures are essential for ensuring that stakeholders at various levels, including farmers, policymakers, and agricultural institutions, are equipped with the necessary skills and resources to leverage ICTs and media tools effectively. By addressing these aspects, the agricultural sector can harness the full potential of information and communication technologies to drive productivity and innovation.

Also **Jomi, Thomas (2010)**, support that farmers perceive the media as a tool for motivation and persuasion rather than as a source of agricultural knowledge and innovation. Farmers place greater emphasis on agricultural research as the primary source of knowledge and innovative techniques. They believe that successful transformation in agriculture requires adequate infrastructure, marketing resources, and government support systems. Farmers do not view the media as a direct contributor to increased agricultural production, but rather as a means to disseminate information and potentially motivate agricultural practices. likewise to, **Singhal and Rogers (2000)** when emphasized that technology and scientific advancements have the potential to enhance the living conditions of rural farmers and contribute to economic growth and rural development in

underdeveloped nations. However, they highlighted that the fundamental issue lies in the lack of efficient communication techniques and tactics to effectively disseminate these advancements to rural communities.

In contrast, **Clark (2002)**, the 'pipeline' model of innovation views scientists as the primary innovators, with the new knowledge then transmitted to end users, such as farmers, through extension systems. This model of communication corresponds to a one-way flow, often employed in print and digital media like journals, books, websites, and CDs. While this approach is effective for disseminating information to large audiences, it is often ineffective for promoting the adoption of new technologies. correspondingly In Udham Singh Nagar district, Uttaranchal, India, whereby **Singh A. K (2001)** conducted a study investigating the socioeconomic characteristics, dairy farming practices, and communication styles of 200 Buxa tribal dairy producers. The study suggests that a communication plan integrating traditional and contemporary media could facilitate the growth of the tribal community, particularly in the dairy industry. The research primarily examines the communication habits of dairy farmers in the state of Uttaranchal.

Nevertheless, the MacBride Commission suggests that "all development projects should allocate sufficient funding for the communication component." This recommendation emphasizes the importance of mobilizing initiatives and generating the knowledge necessary for action across various development domains, including agriculture, health and family planning, education, religion, industry, and others. Development support communications, as advocated by the commission, play a crucial role in this regard. Establishing community presses in small towns and rural areas can support economic and social development initiatives through print media. Additionally, such initiatives can facilitate the creation of literature that is accessible and beneficial to illiterate populations.

Utilizing community radio, affordable small-format television along with the video systems, and other appropriate technologies can make smooth the progress of and to facilitate the dissemination of programs appropriate to the Community growth and development initiatives, encourage the involvement with the participation, and provide opportunities for various forms of artistic expression

Narayanappa (2004). Therefore, promoting development requires the dissemination of ideas or innovations through mass media, traditional media, interpersonal communication channels, new communication technologies, and other channels across space and time. Consequently, in an era of intense competition, the media's role in the development process becomes indispensable.

Furthermore, **Muniraju (2005)** observed that in the Bangalore district, the majority of small farmers had a moderate level of participation in extension activities and limited interaction with various channels such as cattle shows, exhibitions, farm radio programs, group meetings, training sessions, and field days. A small percentage of farmers (around 16%) had never participated in any extension activity. The study aimed to explore the contribution of extension communication to the development of small dairy farmers. Besides to the **Reddy and Singh (2007)**, elucidate that; over 50% of respondents primarily relied on just five communication channels, including farm and home visits (99%), group meetings (95%), method demonstrations (63%), result demonstrations (75%), and farmers' training camps (60%). The study focused on examining the role of extension communication channels and strategies in dairy development. Conversely **Singh (2012)**, enlighten that; the majority of dairy farmers have been exposed to advancements in dairy production through various channels such as radio, agricultural fairs (kissan melas), and exhibits. The researcher has identified these as the primary educational resources for dairy development. However, the study does not delve into the primary communication channels specifically focused on agricultural development.

On the other hand, **Anuradha Singh (2020)** asserts that social media is becoming an essential tool for agriculture as it enables farmers and other agribusiness professionals to communicate globally despite geographical distances. The survey conducted by Singh reveals that the majority of respondents use platforms like Facebook, YouTube, WhatsApp, and agricultural apps to access agricultural information, with none of them utilizing Twitter. Interestingly, while respondents use social media for communication and entertainment, they face challenges due

to a lack of training and knowledge in social media usage and language barriers. This is relevant to **Darshan et al. (2017)**, when they elucidate a significant portion of farmers, 90%, had access to and utilized Facebook. Additionally, 77% of farmers were exposed to and used WhatsApp, while only 15% of farmers utilized Twitter for agricultural information and entertainment purposes.

On top of that, **Mittal and Mehar (2015)** found that only 10% of farmers relied on other progressive farmers for their information needs, while a higher percentage, 21.6%, sought knowledge from alternative sources such as extension agents, farm periodicals, and agricultural organizations. Along with **Kuria and Wangu's (2014)** research, they explicate a significant portion of farmers, 20.7%, had access to the internet for agricultural information, followed by 16.9% who utilized extension services. Social media was accessed by only 14.3% of farmers, while information from other farmers was sought by 13.0%. Among social media platforms, Facebook was used by 4% of farmers, YouTube by 24.7%, and Twitter by 13.0%. Radio and magazines were among the least-utilized sources, accessed by only 8% of farmers. Alike with **Adamides and Stylianou (2013)** found that the majority of farmers (98%) used their mobile phones as a source of information, with information from other farmers being the second most commonly used source (89%). This was followed by field visits by extension service officers (85%), private sector extension consultants (81%), and input suppliers (74%).

Furthermore **Kolar and Kakade (2013)**, pointed out that the majority of farmers had marginal farms, accounting for 59.83%, followed by 25.40% with small farms, 10.65% with medium farms, and only 4.09% with large farms. Additionally, 91.80% of farmers owned a television, 95.90% owned a cell phone, 71.31% owned a radio, and 67.21% subscribed to a newspaper. However, only 27.86% had access to internet service at home. Contrary In **Mwakaje's study (2010)**, out of 200 surveyed farmers, 72 (36%) and 169 (84.5%) owned mobile phones, while only three (1.5%) owned televisions, and none had access to internet services or computers connected to the internet. Gandhi et al. (2009)

found that 40% of farmers used their mobile phones to access information about contemporary agricultural practices.

This review of **Patel (2015)** addresses a gap in the previous study by examining the medium information-seeking behavior group, followed by the low and high information-seeking behavior groups, would be more associated with the phenomenon of the use of communication channels among the farming community. compared to Patidar (2015), whereby, declared that 42.50 percent of all users of internet communication services engaged in medium levels of information searching.

While the previous reviews focused on that, this review of **Nandakumar et al. (2014)** highlighted that; personal interactions with central research organizations, state agricultural research centers, and other organizations lead to the majority of technology transfer in the farming community. This is followed by other forms of communication such as farm TV shows, radio shows, newspapers, books, magazines, and journals. Despite their widespread awareness, the farming community underutilizes mass media channels, such as electronic and print media. Therefore, there is a need to refocus the programming of these media to better address the needs of the farming community at a grassroots level. Seasonal agricultural information should be emphasized during broadcast or televised current affairs segments. To overcome these limitations, the effectiveness of these media must be increased through high-quality farm programming, boosting media credibility, and increased globalization efforts. While the **Gakuru et al. (2009)**, builds upon the findings of voice and SMS solutions are expected to become increasingly popular due to the widespread use of mobile phones, as they are simple to use. However, they acknowledge that there may be some challenges, such as the limited amount of information that can be conveyed via SMS and the need for basic reading skills. Developing voice-based solutions is also challenging because they require natural speech synthesis or machine-generated speech. Additionally, these solutions do not provide as much detail or visual examples as web-based solutions.

Although, the **Gaikwad and Hendre (2001)** point out that traditional communication methods like personal contact, newspapers, radio, television, and

mass communication events like Kisan Melas have not been effective in improving the productivity status of resource-poor, small, and marginal farmers due to their poor economic conditions. These traditional methods are primarily used to provide services such as weather and market information. However, farmers and the public extension system in India have access to direct website links to various agricultural institutions for information dissemination, which can complement traditional communication methods. In contrast **Sidharth et al. (2001)**, shows that; marginal farmers and small farmers received the least amount of farm information, while large farmers received the most. This is because large farmers typically have better access to various information channels and larger holdings with higher investment capacities, leading them to seek out more agricultural information compared to other farmer types.

Pandit and Basak's (2013) research found that the majority of respondents (83.30%) experienced moderate limitations. Shortage of quality seeds ranked second in the constraint facing index (CEI) after the low price of vegetables during harvest. Factors such as level of education, family size, farm size, extended media interaction, and understanding of vegetable production all showed significant negative correlations among the ten factors examined. Stepwise multiple regression analysis revealed that farmer restrictions were more significantly influenced by extension media interaction and understanding of vegetable production. This conversely with **Sridevi (2003)** In her study on media exposure and consumption by farmers, found that farmers' main barriers to viewing were a lack of time, a lack of electricity, and inappropriate broadcast times. Therefore, the primary obstacles to listening to the radio were also a lack of time and ownership of a television.

However, **Aldosari et al. (2017)**, give details on how extension staff members should encourage and instruct the farming community to utilize electronic media (television, radio, internet, mobile) to learn more sophisticated agricultural production techniques. Similarly to **Avilesh et al. (2017)** when they suggest that government and non-government organizations should collaborate to promote agricultural production among farmers through agricultural policies and programs. They recommend providing ICT training for farmers in agricultural

areas and broadcasting local agricultural programs on local radio and television in the local language. Equally to **Kafura et al. (2016)** during the advocate for encouraging farmers to utilize contemporary ICT tools such as mobile phones, agricultural mobile applications, e-krishok services, and the internet to access agricultural information.

Although **Patra et al. (2016)**, lay emphasis on communication that; should be delivered in the local language, and voice messaging capabilities should be clear and straightforward so that farmers can easily understand the message. While **Yaseen et al. (2016)** emphasized the importance of educating the farming community, implementing policies, and involving youth in agricultural activities to ensure the use of computers and the internet in agriculture for increased productivity. And on the other hand **Saravanan (2013)** provides valuable insights into the potential of ICTs for agricultural extension programs. His suggestions for objectively evaluating and comparing ICT tools highlight the importance of evidence-based decision-making in adopting technology for agriculture. Furthermore, Saravanan's emphasis on the role of mobile phones and other inexpensive ICT tools underscores their significance in expanding agricultural activities, especially in areas like private sector agribusiness, market information dissemination, and market intelligence. This highlights the diverse applications of ICTs in various aspects of agricultural development. Saravanan's point about the effectiveness of specific farm information and online tracking of program progress reaffirms the need for targeted and relevant content delivery through ICT platforms. This underscores the importance of identifying and disseminating pertinent information that addresses the needs of farmers and agricultural stakeholders. Saravanan's alignment with the previously stated recommendations regarding human resource development, ICT infrastructure strengthening, content localization, and policy development further reinforces the holistic approach needed to leverage ICTs effectively for agricultural extension services and overall agricultural development. By addressing these key areas, stakeholders can maximize the benefits of ICTs and contribute to sustainable agricultural growth.

In addition **Singh et al. (2011)** highlighted in their study that ICTs provide affordable and effective tools for accessing information and exchanging ideas and expertise in agriculture. However, they emphasized that while ICTs can offer applications and tools, they cannot provide direct solutions to the challenges faced by agriculture. To fully leverage the benefits of ICTs for agricultural development, Singh et al. (2011) suggested the need for developing human resources, strengthening ICT infrastructure, localizing and customizing appropriate content, and formulating national and state-level e-agriculture policies. Compared to **Singh's (2020)** study which explores the utilization of Web 2.0 applications and platforms within the agricultural sector, focusing on their role in disseminating agricultural information. The primary objective was to examine the effectiveness of social media as a source of agricultural knowledge, particularly for farmers. The research highlights the significant advantages that social media offers as a tool for accessing agricultural information, especially for farmers. Furthermore, the study emphasizes the importance of leveraging social media to engage with farmers and solicit their input, thereby enhancing extension programs and ensuring their effectiveness. Similarly to **Nagalakshmi et al. (2011)**, give out a significant portion of farmers (60.6%) expressed the need for increased awareness about available high-tech information facilities, while 40.63% believed that ICT centers should offer extended operating hours.

However, **Senthikumar and Mahesh (2009)** emphasized the importance of addressing connectivity issues by providing battery backup and strengthening broadband connectivity. They also recommended regular content updates tailored to the specific needs of farmers. For instance Farmers can now access extension services more affordably and effectively through social media platforms This contrast with **Langcuster (2010)**. Whereby he enlighten on how Social media enables farmers to engage in personalized learning experiences and connect with peers and experts worldwide from the comfort of their homes. Unlike traditional communication channels, social media facilitates two-way communication, allowing for the sharing of information and the exchange of reflections. This characteristic makes social media an invaluable tool for facilitating the

transmission of information within the agricultural community. This disparity with **Abubakar, B.Z. et al. (2009)**, elaborated that; radio and television serve as the primary mass media outlets for accessing agricultural information, with most participants expressing a preference for these traditional and easily accessible sources. Agricultural programming is particularly popular during the evening hours from 8 p.m. to 11:59 p.m.

An effective strategy for increasing agricultural productivity involves disseminating information about new agricultural technologies and research findings to rural farmers. This includes methods for applying fertilizers, pesticides, and fungicides, innovative soil conservation techniques, and improved methods for planting, harvesting, and storing crops, as well as novel marketing strategies for agricultural products. To ensure that farmers adopt these new technologies, effective extension communication methods, such as mass media channels, must reach them in their farms and homes. By educating people about the food production process through mass media, individuals may develop an interest in cultivating their own food, thereby transforming agriculture (**Buhari, U. A. et al. 2005**).

The mass media serves as a vital contemporary communication tool, offering a unique blend of sound, visuals, and practical demonstrations. It plays a crucial role in transmitting agricultural information to farmers, serving as a significant source of knowledge for rural communities. However, despite their importance, these media outlets often remain financially inaccessible to farmers due to various factors such as power issues, the initial cost of purchase, ongoing maintenance expenses, the need for batteries, reliance on generators, and inadequate national power infrastructure in rural areas (**Muntaqha, A.D. 2007**). The previous review is similarly to **Anyanwu B. et al., 2022**. When they expound that; The mass media remains an indispensable tool for the effective dissemination of agricultural technologies aimed at enhancing agricultural productivity. Farmers require access to and comprehensive education on the utilization of these advancements across various farming practices and systems to derive benefits from them. Disseminating crucial information plays a pivotal role in enabling farmers to make informed decisions regarding their agricultural activities

Various studies have consistently highlighted the effectiveness of both radio and television as communication channels for farmers. Radio has been identified as a valuable tool for raising farmers' awareness and knowledge levels in numerous studies. Agricultural broadcasts on radio have been shown to increase the adoption of agricultural technologies significantly. Farmers who listened to radio programs providing marketing insights experienced improved income and marketing opportunities. Similarly, television has been found to contribute significantly to enhancing farmers' agricultural knowledge in several studies (**Syeda, T. J., 2018**). Along with the importance of agriculture in rural development has once again come to the forefront, highlighting the need to effectively communicate agricultural knowledge to rural populations. However, there are significant challenges hindering successful reporting on agriculture by African journalists, including a lack of expertise or experience in agriculture and various obstacles such as limited access to equipment and lack of editor interest (www.wrenmedia.co.uk).

The utilization of mass media plays a crucial role in mobilizing people for agricultural development in developing nations. Effective use of mass media has the potential to accelerate agricultural growth, according to **M. Kavaskar (2003)**. Together with a study conducted by Fawole (2008) aimed to understand the knowledge sources and practices of Nigerian pineapple producers, revealing that radio (71%) and television (46%) were the primary daily information sources for farmers. Similarly to the study of **Kumari et al. (2014)** conducted to research in two areas of Bihar, India, to evaluate the effectiveness of radio as an educational medium for disseminating agricultural information to farmers. The study revealed a significant improvement ($P < 0.05$) in farmers' knowledge levels for all questions before and after the intervention. The educational radio intervention notably increased the mean score for farmers' knowledge from 4.10 to 6.80 out of a possible 10, indicating the success of radio in raising farmers' awareness (**Hasbullah and Nazari, 2010**). Correspondingly in a study conducted in Nsukka, Nigeria, by **Obidike (2011)**, various barriers encountered by rural farmers in accessing agricultural information via radio and television were identified. These

barriers included poor radio and television reception, inadequate access to electricity or frequent power outages in most Nsukka communities, illiteracy among farmers, and the absence of agricultural information in the native Nsukka dialect on radio or television. Equally to **Alam and Haque (2014)** conducted a study to assess the role of various television channels in providing agricultural information to farmers in Bangladesh. Their findings revealed that the majority of respondents took only modest action in implementing the agricultural technologies and methods they had learned from watching television broadcasts about agriculture.

2.5 Adoption of New Technologies in Agricultural Development

Obayelu et al. (2017) addresses a gap in the previous reviews by investigated the factors influencing the adoption of agricultural technology among smallholder families. Their findings revealed that changes in technology adoption were associated with shifts in the nation's economic status, the net benefit derived from adopting the technology, access to information, travel costs, attributes of the technology, and human-specific factors. Both farmers and technology developers can benefit from these insights. Smallholders are more inclined to adopt new agricultural technologies when information about them is easily accessible, farmers are encouraged to pursue higher education, and farmers are engaged in the technology's development process conversely to **Fisher et al. (2016)**, when give explanation on the adoption of the conservation agriculture (CA) technologies in Malawi that was influenced by the farmer-to-farmer-extension (F2FE) structure, involving lead farmers and follower farmers. The study collected data from 180 lead farmers and 455 followers in central and southern Malawi to determine the extent of lead farmers' influence on the knowledge and acceptance of CA among their followers. The findings indicated that lead farmers had a significant impact on the acquaintance with and the Adoption of CA among their followers.

Moreover, **Magnan et al. (2014)**, elaborate on advancements in agricultural technology that have led to increased agricultural output and profitability, potentially improving access to food for rural poor populations. Extension

initiatives operated under the assumption that by introducing technology to a select group of farmers, known as progressive farmers, others would eventually learn about its benefits and adopt it. However, it was challenging to determine which farmers influenced adoption decisions, as they all shared technology within their networks. To identify first-generation adopters, the study conducted a series of randomized experiments, introducing laser land leveling (LLL) technology to selected farmers. This increased farmers' exposure to and demand for the technology, but **Ramirez (2013)** employed social network analysis (SNA) to investigate how professional collaboration within social networks influenced farmers' adoption of irrigation technology. The sample consisted of 195 fields farmed by 37 farmers in southeast Texas over a five-year period. The analysis revealed that membership in organizations influenced the adoption of irrigation technology, with technology being transmitted through central farmers after early installations. Additionally, farmers' decisions to join organizations were influenced by their ownership stake.

Furthermore, **Matuschke and Qaim (2009)** examined the impact of social networks on smallholder farmers' adoption of Modern Seed Technologies in Developing Countries, focusing on the hybridization of Pearl Millet and wheat in India. They analyzed the diffusion stages of hybrid technology, noting that hybrid Wheat was commercialized in India only in 2001, while hybrid Pearl Millet was introduced in 1965. Surveys conducted among Wheat and Millet farmers in Maharashtra provided data for the analysis. By gathering detailed information on social interactions and farmer characteristics, they could identify individual technology uptake. The study concluded that targeting seed growers using an advanced social network model was the most effective approach. While **Monge et al. (2008)** presented results from a study that examined social interaction patterns among small farmers in three agricultural sub-sectors in Bolivia: fish culture, peanut production, and quinoa production. The study investigated how social contacts influenced farmers' decisions to adopt technologies. They selected twelve micro-regions from each sub-sector for analysis and conducted interviews with 360 farmers, 60 change agents, and other actors involved in supporting the diffusion of innovations. The data collected were used to test a hypothesis about

how farmers' social network interactions influenced the speed of technology adoption. The study found that farmers in Bolivia's underdeveloped rural areas made adoption decisions based on societal and competitive pressures. These findings are relevant for practitioners involved in planning initiatives and programs related to agricultural innovations.

In addition **Agwu et al. (2008)** conducted research in Enugu State, Nigeria, to assess whether farmers exposed to radio farmer programs had adopted improved agricultural methods. The study found that the radio farmer initiative led to increased adoption of six out of the nineteen technologies by farmers. And **Bandiera and Rasul (2003)** In their study, they investigated how social networks influence the adoption of new technology. They collected household data from Northern Mozambique to determine if specific farmer decisions to plant sunflowers were influenced by the adoption decisions within their social network. The number of other farmers each farmer knows who have adopted serves as an indicator of their social network. They found that social networks play a significant role in determining adoption, particularly for farmers with limited information. Traditional network measurements using village-level data are utilized to gauge actual information or typical unobservable factors.

However, **Silva and Broekel (2017)** identified the primary barriers hindering farmers in the Hambantota district from adopting a recently introduced paddy enhancement technology initiative. They examined farmers' adoption patterns of technological programs, utilizing a selected sample of 30 AI officers to gather information through systematic interviews. The data collected were analyzed, and a straightforward linear regression analysis was conducted to determine if there was a correlation between farmers' adoption rates at various stages. The findings revealed that most AI officers reported only a 40–60% adoption rate among farmers for the new technology initiatives. The majority of local farmers progressed to the awareness level, but only around 50% of farmers proceeded to eventual acceptance. Compared to **Duraisamy (2016)**, in his research discovered that; farmers face primarily economic and infrastructural challenges. The lack of education and technological resources is a major issue. Educating farmers about

the operation of large labor machines is a necessary first step. Additionally, improving access to electricity from various sources is essential. Investing in public infrastructure, including safe transportation for farmers to sell their produce in urban areas, is crucial. The lack of resources often leads to despair among farmers, sometimes resulting in tragic outcomes such as suicide. Along with **Kabir K. H. (2015)**, agreed that; farmers encounter various issues while using ICT tools, including difficulties in loading data files, a lack of ICT training, and increasing costs associated with using ICT tools.

Additionally, **Marley B. (2015)** highlighted several challenges that hindered farmers from adopting banana enhancement methods effectively. Suggestions were provided to overcome these challenges and positively impact the adoption of banana enhancement technologies, ultimately increasing yields and income for respondents. Similarly to **Kumar, M. (2014)**, when he identified several challenges faced by farmers, with the lack of information centers being the primary issue. Additionally, agriculture authorities' resistance, ignorance, and poverty were significant challenges affecting farmers' ability to access and utilize agricultural information effectively.

In contrary to the previous review, **Aditya et al. (2011)**, explained that; ICTs have the potential to revolutionize agriculture on a large scale and enhance the quality of life for farmers. However, the coordination of a set of local and national issues within the district poses more of a challenge than the technology itself. While **Sara Boettiger et al. (2018)**, on their study, elaborated that; supporting agriculture in developing nations is considered the most efficient strategy to improve the lives of millions of people living in poverty. The majority of the poorest individuals worldwide are farmers, and even those who are not farmers spend a significant portion of their income on food. Transforming the agriculture sector of a nation can lead to increased employment, incomes, reduced malnutrition, and set the economy on a trajectory toward middle-income growth. Historically, nearly every industrialized country initiated its development with a transformation of the agricultural sector. Recent examples include Brazil, China, and Vietnam, where each country's agricultural sector increased in value by at

least a factor of two within 20 years of beginning its transformation. Many other nations in Asia, Latin America, and Africa are also progressing along similar transformational paths.

Furthermore, Farmers have various methods to enhance their agricultural productivity. One such approach is precision farming practices, which utilize technology like variable-rate seeding and fertilizing. This technology allows farmers to apply seeds and nutrients precisely, based on soil types and other data inputs. By doing so, farmers can ensure that the right amount of inputs is applied at the exact spot, optimizing yields while minimizing input waste. (<https://www.agrivi.com>) likewise by employing soil-building techniques like cover cropping is essential for promoting healthy soil practices, enhancing natural fertility, and increasing water-holding capacity. This fosters high yields and improved crop quality. Furthermore, implementing agricultural systems with low-energy, labor-efficient, and water-efficient irrigation methods can reduce costs while enhancing yields. Additionally, integrating pest management strategies helps prevent, detect, and control pest and disease outbreaks as they emerge, contributing to overall crop health and productivity.

2.6 Agencies/NGOs in Agriculture and Rural Development

According to **Kumar, M. L. et al. (2013)**, NGOs play vital roles in agriculture and rural area development, including organizing the rural poor, constructing experimental models, and catalyzing rural communities. Consequently, NGOs are essential contributors to agricultural and rural development, which in turn drive economic growth. Moreover it has been proposed that NGOs would play a vital role in advancing the public-private partnership model, particularly in rural development. These agencies are tasked with promoting rural development at a reasonable cost. With the government providing greater autonomy to NGOs in the implementation of agricultural development policies, they play a significant role in both planning and executing development strategies. NGOs facilitate the mobilization of local resources for development purposes, contributing to the creation of self-sustaining communities. Furthermore, they act as intermediaries

between the public and the government, aiding in professionalization, education, and overall development initiatives (**Neelima Kumari, 2013**).

On the other hand, Non-governmental organizations (NGOs) continue to prioritize providing essential services to those in need. Many NGOs have demonstrated their ability to reach marginalized populations, operate in challenging environments, innovate, and achieve goals more effectively than government organizations. These NGOs often have strong connections to disadvantaged areas, serving as membership groups for vulnerable individuals or employing participatory methods. Their resources are typically supplementary, supporting the efforts of others in development endeavors, and they can contribute to making the process more transparent, accountable, and democratic (**Newman C. Enyioko, 2012**). While the government's efforts to address development challenges have reportedly fallen short of expectations, as highlighted by **Arora, N. et al. (2018)**. Consequently, NGOs are emerging as a new driving force, shouldering the responsibility for agricultural growth. With their role expanding beyond traditional sectors, NGOs are increasingly crucial for the successful implementation of government programs aimed at sustainable development across various domains, including education, poverty alleviation, health, agriculture, youth empowerment, and community development.

But **Farrington, J., & Lewis, D. J. (2014)** intricate that; the agriculture sector faces a multitude of challenges, leaving little room for debate or exaggeration. NGOs, by assuming necessary roles, can significantly stimulate agricultural growth and development, providing a vital impetus to the sector. Although **Siddaraju, V. G. (2011)**, suggests several areas where NGOs can focus their efforts to bolster agricultural expansion. These include establishing committees to empower farmers and promote organic farming, adopting integrated approaches to advance agriculture, fostering self-help groups (SHGs) and farmers cooperatives, facilitating agricultural product marketing, advocating for mixed farming practices, promoting soil and water conservation, facilitating access to credit facilities, and advocating for the concept of an "Organic Village."

In addition to that; the interest in NGOs' contributions to agricultural development has surged in recent years, as highlighted by a source from <https://www.thentf.org/article/the-role-of-ngo-in-agricultural-development>.

Whereby, this growing interest is driven by the myriad ways in which NGOs can support sustainable agriculture and help farmers maximize the value of their harvests, thereby incentivizing investments in the sector. Agriculture has long been a linchpin of prosperity, with industries built around it offering the potential to boost the incomes of smallholder farmers. However, despite these opportunities, many smallholder farmers remain trapped in poverty. Likewise to the information which has been found at <https://www.upati.gov.in/MediaGallery>, NGOs play a crucial role in agricultural development by supporting government initiatives and maintaining close connections with rural communities. Their small scale, flexibility, innovation, and participatory approach make it easier to introduce new concepts and technologies in agriculture. Additionally, NGOs effectively address the needs and aspirations of the community they serve. Furthermore, as highlighted by **Mathur, A. S. (2016)**, NGOs contribute to the growth of the agricultural sector by deploying volunteers to provide technical assistance, capacity building, and other forms of support where needed.

Moreover, the NGOs can employ various strategies to address development difficulties in agricultural growth, as outlined by **Sunder (2018)**. These strategies include focusing on underprivileged groups with small, local projects, encouraging self-sufficiency among communities, providing training and education to impart skills, and strengthening local communities. And according to the **European Bank for Reconstruction and Development (2019)**, supporting the growth of small and medium agricultural enterprises in rural regions is crucial for achieving transition in EBRD countries of operations. Measures taken to ensure equal treatment of all manufacturers in the market include supporting the creation of a civic space where residents can decide on the future of their towns and villages, prioritizing social development and environmental protection, and

assisting national authorities in developing and implementing support programs for small and medium producers.

Furthermore, the Agribusiness Sector Strategy, referred to as the Strategy, builds upon the EBRD's previous Agribusiness strategy and operations from 2010 to 2017, while also taking into account changes in the industry that have occurred since then. This Strategy outlines the Bank's approach to supporting the agribusiness industry in its operating nations from 2019 to 2023. Starting in 2019, the Bank began providing financing, technical assistance, and policy advice to foster a more accountable, sustainable, and innovative agricultural sector. The Strategy is aligned with other EBRD strategies, approaches, and policies, including country strategies and governance policies such as those related to public information, environment, and social aspects. (www.ebrd.com/strategies-and-policies), for instance to ensure that farmers can make significant contributions to the national economy, it's crucial to protect them against the inherent risks in agriculture. Government support is vital across various economic disciplines to enhance efficiency and reduce production and marketing costs, thereby supporting increased food consumption. This assistance includes providing farmers with timely economic information and market updates, analyzing production economics issues, improving marketing strategies, facilitating access to credit, offering extension services on economic matters, and providing adequate professional training in agricultural economics. (<https://www.fao.org/3/x5576E/x5576e04.html>)

Therefore the Bill & Melinda Gates Foundation, their mission is to assist farmers and governments in South Asia and sub-Saharan Africa as they strive to revolutionize agriculture in a manner that is economically sustainable, respects the constraints of natural resources, and guarantees equitable access to affordable, nutritious food for all. (<https://www.gatesfoundation.org/our-work/programs/global-growth-and-opportunity/agricultural-development>). And despite significant technological advancements in agriculture, many farmers, particularly in underdeveloped countries, continue to rely on conventional

farming methods. Pressures on resources like land and water are intensifying due to the impacts of climate change and a growing global population. The initial phase of smart agriculture involves educating farmers about the benefits of adopting scientific cultivation practices and providing them with tools to adapt to a changing environment. These tools include: simple tracking of daily farming activities, assessment of crop health, rapid weather updates and warnings, access to the latest agronomic information, and automated alerts at each stage of the growing process. (<https://www.cropin.com/blogs/smart-farming-digital-adoption>) While government programs play a significant role in assisting farmers with their transition to digital agriculture, developmental organizations are equally important in advancing this movement and implementing programs at the farm and regional levels. Digital agriculture relies on data-driven insights to guide sustainable food production, improve productivity, and enhance farmer livelihoods through a scientific approach to farming. CropIn's efforts to make agriculture sustainable align closely with the United Nations' Sustainable Development Goals (SDGs), including Zero Hunger, Good Health and Well-Being, Gender Equality, Clean Water and Sanitation, Decent Work and Economic Growth, Responsible Consumption and Production, Climate Action, and Partnerships to Achieve the Goals **(Vijay Nelson, 2020)**.

Consequently, the United States Environmental Protection Agency (EPA) is actively engaged in educating farmers about a range of methods to reduce nutrient losses from their operations. These methods include implementing conservation tillage, managing livestock access to streams, adopting conservation drainage practices, ensuring year-round ground cover, planting field buffers, and implementing nutrient management techniques. These efforts aim to promote sustainable farming practices and mitigate the environmental impact of agricultural activities. (<https://www.epa.gov/nutrientpollution/sources-and-solutions-agriculture>) along with the initiatives such as Enabling Agricultural Trade and the Programme for Biosafety Systems are examples of USAID-supported agricultural capacity development efforts aimed at enhancing developing nations' abilities in data collection, analysis, and policy formulation.

USAID collaborates with the U.S. Department of Agriculture to assist nations in improving their national agricultural statistics systems. Additionally, USAID supports the expansion of opportunities for both U.S. and international researchers to conduct scientific research and training through programs like the African Women in Agricultural Research and Development Fellowship Programme, Collaborative Research Support Programmes, and the Borlaug Higher Education Agricultural Research and Development Programme, which promotes long-term degree training. These initiatives aim to strengthen agricultural capacity and promote sustainable development in partner countries.

On the side of Extension and advisory services play a vital role in supporting agricultural development and improving productivity in developing nations. Programs such as Modernizing Extension and Advisory Services aim to provide technical assistance and training to farm organizations and agribusinesses, helping them adopt modern practices and technologies. Additionally, initiatives like Modernizing Agricultural Education and Training Systems support colleges, technical institutions, and universities in developing countries to better equip their labor forces with the necessary skills and knowledge. Moreover, efforts like Africa LEAD and the Cooperative Development Programme focus on creating an enabling environment for private sector investment in agriculture and value chains, promoting sustainable growth and development in the agricultural sector. (<https://www.usaid.gov/agricultural-capacity-development>) while the A Farmer Producer Organization (FPO) is a collective entity formed by producers, particularly small and marginal farmers, with the aim of providing them with enhanced access to resources such as funding, technology, inputs, and markets. FPOs serve as a valuable strategy for empowering smallholder farmers and ensuring their economic well-being. In India, where a significant portion of the population depends on agriculture for their livelihood, FPOs play a vital role in involving farmers in the development process. They offer a structured platform for the adoption of modern technologies, effective integration into rural development initiatives, monitoring of socioeconomic progress, and fostering long-term employment opportunities for women and youth. Additionally, FPOs

contribute to poverty alleviation efforts by promoting sustainable agricultural practices and improving market access for millions of farmers. (<https://www.smsfoundation.org/farmer-producers-organizations-and-agricultural-development/>)

On top of that, ADAPT is as a collaborative effort between the foundation, the government of Odisha, and the consultancy firm Samagra aimed at informing agricultural policy decisions in the state. Through initiatives such as optimizing supply chains for raw materials, providing pest and weather advisory services, and disseminating information about markets and modern technology, ADAPT assists farmers across Odisha in enhancing the productivity of their agricultural activities. Additionally, the ADAPT team works closely with the state government to develop and implement the KALIA scheme, which offers livelihood support to marginalized and smallholder farmers throughout the state. (<https://www.gatesfoundation.org/our-work/places/india/agricultural-development>) whereby a Task Force on Agriculture Development was established under the leadership of the Vice Chairman of NITI Aayog in accordance with the decision made at the first meeting of the Governing Council of NITI Aayog, held on February 8, 2015. Its objectives include collaborating with task groups under the control of the State Government and Central Ministries to make suggestions for revitalizing agriculture in all its forms, developing reform, innovation, and technology diffusion strategies, and determining effective projects and programmes that all States and UTs can adopt, as well as any further actions needed. (<https://www.niti.gov.in/content/agriculture-development>).

Moreover at the Department of Agriculture endeavors to bolster and preserve farm income while expanding access to international markets for agricultural products. It is committed to addressing issues of hunger, malnutrition, and poverty by providing assistance to landowners in preserving soil, water, forests, and other natural resources. By doing so, it aims to enhance environmental sustainability and maintain production capacity. Additionally, the Department ensures the maintenance of quality standards in the food supply through inspection and

grading services. (<https://www.federalregister.gov/agencies/agriculture-department>) and the Agriculture has the potential to positively impact the lives of the 80 percent of impoverished individuals residing in rural areas, many of whom are engaged in farming activities. By boosting earnings, improving food security, and reducing poverty levels, agriculture can play a pivotal role in transforming the livelihoods of rural communities. The World Bank Group frequently provides financing for agricultural initiatives, recognizing the sector's significance in addressing global poverty and promoting sustainable development. (<https://www.worldbank.org/en/topic/agriculture/overview>).

In contrast, the relationship between institutional change and technical advancement is often regarded as a driving force behind the development process. Understanding this relationship requires situating the topic within a framework that acknowledges the role of institutional change in fostering agricultural growth. By categorizing institutions based on the speed of their adaptation, as suggested by **Stephan Klasen (2005)**, we can better understand both the institutional characteristics that facilitate agricultural development and the policy interventions needed to address related challenges. For the purpose of the effectively support the dynamic food and agriculture sector, the Michigan Department of Agriculture and Rural Development (MDARD) advocates for growth, innovation, and creativity. Committed to cultivating a multicultural, equitable, and inclusive environment, the department prioritizes values, supports its workforce, and nurtures an inclusive culture through active participation and empowerment. (<https://www.michigan.gov/mdard>).

2.7 Agriculture and Rural Development Agencies/NGOs in Tanzania

The following reviews will show and explain the Agencies in Tanzania deals with the Agriculture and Rural development such as; The Expanding Rice Production Project (ERPP) aims to enhance rural incomes and food security by expanding rice production and marketing in targeted regions of Morogoro (mainland) and Zanzibar. This involves sustainable seed system initiatives, improving crop productivity through enhanced irrigation and crop management, and

implementing innovative marketing strategies. The project coordinates crop sales through warehousing programs, facilitates bulk input purchases, and manages irrigation schemes comprehensively. Additionally, by promoting improved irrigation and water management systems, the project contributes to climate change adaptation efforts. (<http://www.kilimoznz.go.tz/ERPP.php>)

Furthermore, the Tanzania Official Seed Certification Agency (TOSCA), previously under the Ministry of Agriculture Food Security and Cooperatives, was succeeded by the Tanzania Official Seed Certification Institute (TOSCI) following the enactment of Seed Act No. 18 of 2003. TOSCI is headquartered in Morogoro, with branches in Mwanza, Arusha, and Njombe. TOSCI is responsible for approving new crop varieties for official release and certifying seeds intended for domestic seed sales. (<https://asdp.kilimo.go.tz>) The Southern Agricultural Growth Corridor of Tanzania (SAGCOT), established in 2010, is a public-private partnership aimed at promoting Tanzania's agricultural industry through agribusiness investments in the southern corridor. (<http://sagcot.co.tz/>)

Moreover, the Tanzania Official Seed Certification Agency (TOSCA), a government organization under the Ministry of Agriculture Food Security and Cooperatives, was replaced by the Tanzania Official Seed Certification Institute (TOSCI) under the Seed Act No. 18 of 2003. TOSCI's headquarters is located in Morogoro, with branches in Mwanza, Arusha, and Njombe. TOSCI is responsible for approving new crop types for official release and certifying seeds intended for domestic seed sales. (<https://asdp.kilimo.go.tz>) in the same vein with the Agricultural Seed Agency (ASA) was established in June 2006 under the authority of the Executive Agencies Act No. 30 of 1997. Initially operating as a department within the Ministry of Agriculture, Food Security, and Cooperatives, ASA was granted some degree of autonomy. It took over the responsibilities previously managed by the Seed Unit of the Ministry, with the primary objective of ensuring farmers' access to high-quality agricultural seeds at affordable prices. The agency aims to achieve several key goals, including improving seed accessibility for farmers, expanding seed production and distribution networks,

fostering public-private partnerships or joint ventures to enhance private sector participation in seed industry development, promoting the adoption of certified seeds by farmers, and strengthening research capacities to develop and breed varieties tailored to farmers' specific needs. (<http://www.asa.or.tz>)

2.8 Research Gap

Based on existing research, numerous studies have explored the accessibility and utilization of agricultural information by farmers through mass media channels. However, limited attention has been directed towards understanding the accessibility and usage of mass media among smallholder farmers in Tanzania, particularly in the Gairo district of the Morogoro region, concerning its role in agricultural development aimed at poverty reduction and rural advancement. This study aims to address this gap in the literature by investigating the extent to which mass media contributes to agricultural and rural development in the specified region.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Objectives

Main objective

The primary objective of this study is to examine the role of mass media in rural and Agricultural development in Tanzania especially to small holder farmers.

Specific objectives include:

- i. To a study the role of media in inculcating, adaptation of innovation and barriers in agriculture among small holder famers of Tanzania.
- ii. To explore the changes in agriculture practices in rural areas of Tanzania through media.
- iii. To find out the communication strategies being used by various agencies to promote agriculture.
- iv. To examine the role of media in the development of the rural areas in Tanzania.

3.2 Hypothesis

- i. Media contribute to the adaptation of agricultural innovations and address barriers among smallholder farmers in Tanzania
- ii. There are specific changes in agricultural practices can be attributed to the influence of media in rural areas of Tanzania
- iii. Distinct communication strategies employed by different agencies to promote agricultural development in Tanzania, particularly in rural regions
- iv. The role of media influences the overall development of rural areas in Tanzania.

3.3 Research Methods

3.3 a. Overview

In essence, methods encompass the overall approach taken to conduct a study.

Cohen et al. (2013) define research methodology as the systematic approach to

addressing research problems. Thus, research methodology forms a critical aspect of any research endeavor as it lays the groundwork for achieving the study's objectives. Then **Kothari (2004)** underscores that research methodology typically encompasses various dimensions tailored to the study's aims. Given that procedures may vary depending on the research challenge, it is imperative for researchers to possess a clear understanding of the approaches and methodologies pertinent to their research. While **Punch (2013)** emphasizes that the selection of a research method should be done judiciously, considering all feasible procedures and techniques applicable to the research problem, while weighing the advantages and disadvantages of different approaches. In other words, "method" defines the broad process of research, with research methodology serving as the systematic approach to resolving research issues, crucial for guiding the entire research project towards achieving its goals, as observed by **Cohen et al. (2013)** and **Kothari (2004)**.

3.3 b. Research Strategy

According to **Bryman (2015)**, a study's overall plan is its research strategy, which serves as its guiding principle. This strategy encompasses various techniques for gathering relevant data tailored to the specific research topic, with each technique decision determined by the requirements of the research. Components of a research strategy include research design and approach, data collection techniques, research paradigm, sampling procedures, sample size, as well as accessibility issues in the research process, tools for data analysis, and ethical considerations.

As such, the following sections provide an overview of the research methodology, research design, research paradigm, data collection methods, sampling strategies, sample size, and data analysis tools chosen for this study. Additionally, Chapter One outlines the ethical considerations of the study.

3.3 c. Research Approach

The research approach, encompassing steps for gathering, analyzing, and interpreting data, constitutes the plan or process of the research. It consists of two

main components: the data gathering approach and the reasoning approach, which are tailored to the specific research challenge.

3.3 d. Reasoning Approach

According to **Mackey & Gass (2015)**, any research study's reasoning technique can be categorized into three primary approaches: inductive, deductive, and hybrid methods. Each of these approaches plays a crucial role in gathering relevant data for the study and analyzing it to achieve the research objectives.

For this study, the researcher opted for a deductive approach, which involves testing hypotheses or research questions from general to specific. This approach was chosen for both testing the hypotheses and analyzing the data to determine whether the statements are accepted or rejected.

3.3 e. Research design

The researcher has chosen a descriptive research design for this study to define the main topics and express the ideas and traits of a certain group accurately. Additionally, a quantitative research design has been selected to quantify the data collection, analysis, and convergent reasoning. With these designs, the researcher tested the developed hypotheses or research questions and arrived at a valid conclusion regarding the relationship between the independent and dependent variables.

3.3 f. Universe of study/population

In Tanzania, agriculture plays a significant role in the economy, accounting for 28% of the GDP. Additionally, approximately 63% of the population resides in rural areas, where agriculture is a primary source of livelihood. The country boasts around 3.7 million smallholdings, which constitute all farms and are defined as those smaller than the middle-size farm criterion of 2.5 hectares. In the Morogoro Region, with a population of 3,197,104, agriculture is a major employer, with about 80–90% (approximately 2,600,000) of the labor force engaged in agricultural activities. Furthermore, in the Gairo district, which has a population of 480,000 people, smallholder farmers comprise 90% (approximately

432,000) of the population (United Republic of Tanzania, 2022). (**National Sample Census of Agriculture 2019/2020 National report, August, 2021**)

3.3 g. Sampling Method

According to **Creswell (2013)**, sampling helps in identifying the target respondents for the study, from whom the researcher collects primary data. Both quantitative and qualitative studies utilize sampling strategies, which are categorized into probability also known as random, it is an objective sampling and non-probability also known as non-random, it is a subjective sampling. These strategies further divide into subgroups such as random sampling has Simple, Systematic, Stratified and Cluster random Sample, and non-random sampling has Convenience, Quota, Purposive and Snowball sampling methods.

Chosen sampling

In this study, the researcher has opted to utilize non-probability sampling to select the samples for data collection. A purposive sampling approach was employed to choose the targeted respondents, aligning with the study's specific requirements. Additionally, the researcher established geographical boundaries, focusing specifically on the Morogoro Region, particularly Gairo district, in Tanzania.

3.3 h. Sample Size

According to **Creswell (2012)**, the sample size, often referred to as the research study's samples, represents the number of respondents chosen by the researcher for the study. In this study, the researcher selected smallholder farmers located in rural regions. The sample size was determined to be N=384 using the Raosoft, Inc. formula in the Sample Size Calculator. This calculation considers a margin error of 5%, a confidence level of 95%, a population size of 432,000, and a response distribution of 50%. (www.raosoft.com/samplesize.html).

3.3 i. Data Collection

The two main categories of data collection methods are qualitative and quantitative approaches. According to **Hennink et al. (2010)** Qualitative data, also

known as exploratory research, is used to gain insight into the study problem and test hypotheses. It is gathered through methods such as focus groups, interviews, and observations. **According to Jackson (2015)**, Quantitative research, on the other hand, involves collecting numerical data that can be analyzed statistically and presented visually through frequency tables, cross tabulation, graphs, charts, and photographs. This type of data is often gathered through online, in-person, or mobile surveys.

Based on the aforementioned rationale, the researcher determined that employing both qualitative and quantitative methods would be suitable for collecting information/data in this research project. Interviews were conducted with government agricultural officials to gather qualitative insights, while surveys were utilized to systematically collect quantitative data, aiming to comprehend respondents' perspectives on the media's role in rural and agricultural development. Questionnaire sets were distributed to the sample to obtain the necessary information for the study. To present quantitative data effectively, the researcher opted for a structured survey approach, presenting the results in tabular and graphical formats to ensure clear and accurate understanding by the readers.

Furthermore, to obtain the requisite information for the study, the researcher formulated questions for smallholder farmers. Quantifiable data from the field was collected through structured surveys and presented in a tabular and graphical format, along with Chi-square analysis. These technique strategies were chosen to ensure that the results are comprehensible and accurate to the readers.

3.3 j. Data collection Technique

It is widely recognized that the cornerstone of any study is its research data. As **CR Kothari (2001:7)** elucidates, research methods encompass the procedures and instruments employed to select and formulate research strategies. These methods encompass the activities and tools utilized to conduct research operations, including data collection, analysis, and observation, constituting what we refer to as research techniques.

Additionally, **Bryman (2015)** delineates data collection techniques into two primary categories: primary and secondary. Both types of data play integral roles in achieving the research objectives.

i. Primary data

Primary data refers to firsthand facts and information collected directly by the researcher from the field. These are often considered the original or fundamental data gathered for a specific research purpose.

ii. Secondary data

Secondary data refers to information that researchers utilize in their research, which is collected from various sources such as books, journals, the internet (websites, blogs, e-papers, etc.), magazines, conference papers, and newspapers. This data has been previously gathered and published by others, and researchers can use it to support or complement their own research findings.

Chosen technique

In order to achieve the research objectives, the researcher has chosen to employ both qualitative and quantitative data collection methods. Qualitative data was gathered through in-depth interviews with government officials from agricultural departments, serving as a descriptive method. On the other hand, quantitative data was collected through a structured survey using close-ended, multiple-choice questions, and Likert scale ratings to measure opinions, attitudes, and behaviors. Each response was coded for easy data analysis. Secondary data, sourced from books, theses, journals, articles, blogs, and websites, was also utilized to complement the primary data collection process.

3.3 k. Survey method

Surveys involve gathering information from a group of individuals by asking them questions, and they can be administered through various mediums such as paper and pen, online forms, or face-to-face interviews. In this study, employing closed-ended, multiple-choice questions in a structured survey format is a

common approach to collect quantitative data from smallholder farmers. Assigning coding numbers to each answer facilitates data analysis by simplifying the calculation process.

The questions for this study were adopted from **Mistura Adebisola Salaudeen and Ngozi Onyechi's study titled 'Digital media vs mainstream media' (2020)**, **Wulystan Pius Mtega's research on 'The usage of radio and television as agricultural knowledge sources' (2018)**, and **Sonia Wahengbam's work on 'Social development through Traditional media (shumang leela), with special reference to Manipur' (2019)**. These studies were chosen for their reliability and validity.

3.3 I. Data Analysis Tools

Ohen et al. (2013) suggest that data analysis tools are typically utilized to aid in the analysis of gathered data and to present the data in the form of graphs, charts, or in a logical manner. For qualitative data, analysis methods such as thematic analysis, content analysis, or human interpretation are recommended. Conversely, quantitative data are analyzed using various statistical procedures and tools, including the chi-square test, Analysis of Variance (ANOVA), linear regressions, correlations, multiple regressions, and factor analysis.

Chosen Tools

In the current study, the researcher employed basic descriptive analysis, frequency tables, cross-tabulation in both tabular and graphical forms, and utilized the chi-square test as a statistical tool to analyze the quantitative data. The data were processed using SPSS (Statistical Package for the Social Sciences) software, enabling presentation in tables, graphs, or charts for clear communication of the findings.

Analytical Techniques:

The Chosen ones based on research question, data type, and study design. SPSS: Used for its user-friendly interface, comprehensive statistical procedures, and data management capabilities. Chi-Square: Used to examine relationships between categorical variables, compare observed frequencies, and test for independence. Suitable for categorical data and testing associations between variables.

CHAPTER 4

RESULTS, FINDINGS, INTERPRETATIONS AND ANALYSIS

4. 1 Introduction

This chapter is carved up into two sections. And section one focuses on presenting the results, findings, and interpretation of the quantitative data collected through questionnaires administered to small-holder farmers in schedule form. Section two delves into the qualitative data and analysis.

Section One

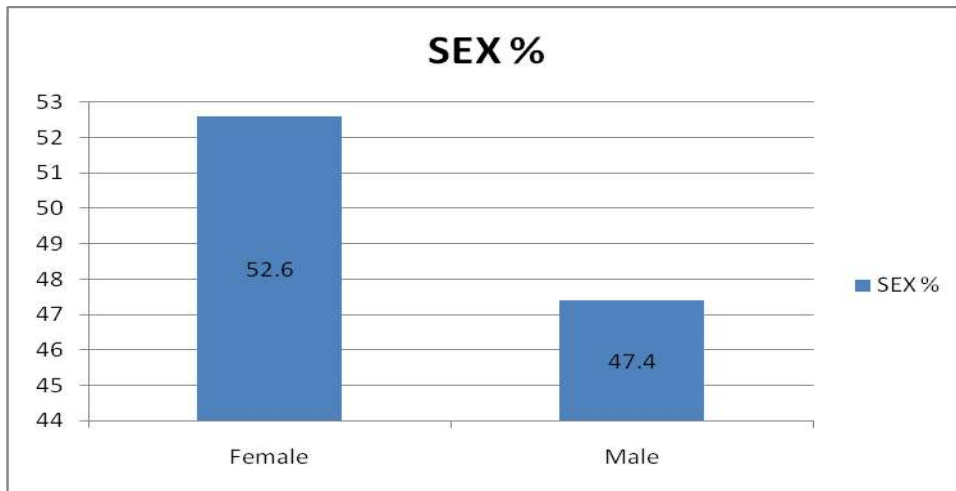
This section discusses the findings derived from quantitative data gathered through structured questionnaires administered to smallholder farmers in the Morogoro region of Tanzania. The survey was conducted in a scheduled manner across three villages: Ibuti, Msingisi, and Ihenje in Gairo district. The section begins with the presentation of frequency tables accompanied by corresponding graphs, followed by an interpretation and analysis of the results. Subsequently, the outcomes of the Chi-Square Test are provided, along with their interpretation and analysis.

4. 2 Frequency Tables graphs and description

4.2 a. Demographic Characters

Qn 1: Sex of the respondent

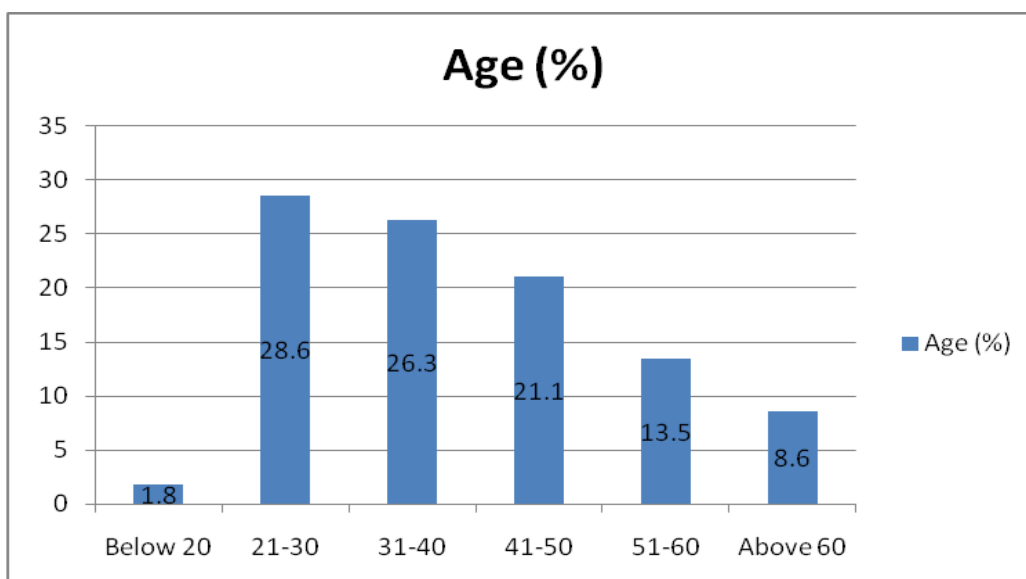
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	202	52.6	52.6	52.6
	Male	182	47.4	47.4	100.0
	Total	384	100.0	100.0	



Based on the data presented in the table and graph, it is evident that there was a higher representation of female respondents in the demographic characteristics section. Despite the researcher's efforts to achieve a balanced sample, females constituted 202 out of 384 respondents, equivalent to 52 percent of the total sample. This phenomenon can be attributed to the increasing emphasis on empowering women across various sectors, even in rural areas. Many women are now actively participating in agriculture as a means to earn income and support their families, challenging the traditional role of solely being homemakers reliant on their husbands or youth dependent on their parents.

Qn. 2: Age of the respondent

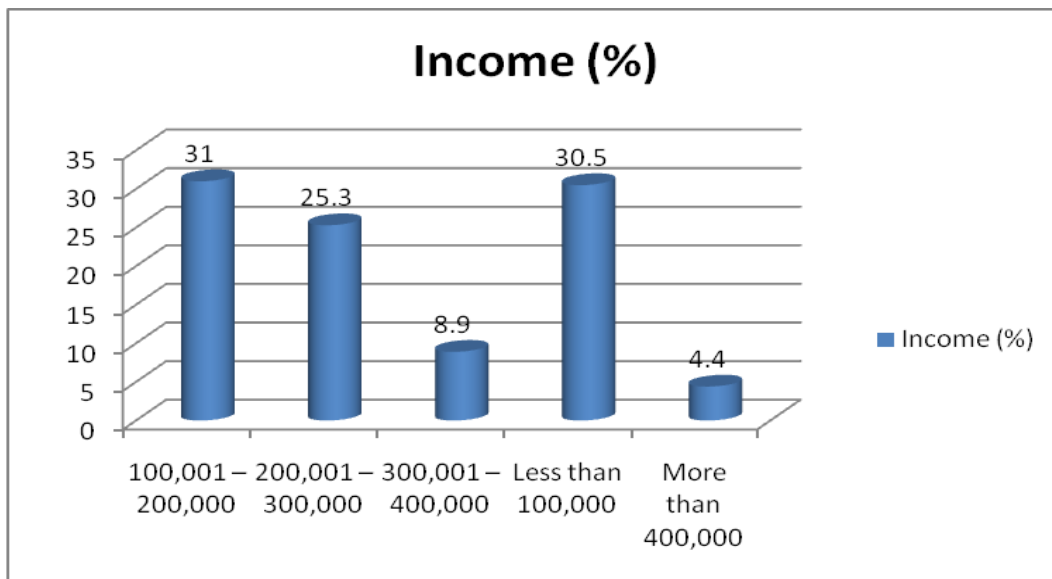
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 20	7	1.8	1.8	1.8
	21-30	110	28.6	28.6	30.5
	31-40	101	26.3	26.3	56.8
	41-50	81	21.1	21.1	77.9
	51-60	52	13.5	13.5	91.4
	Above 60	33	8.6	8.6	100.0
	Total	384	100.0	100.0	



The data illustrates that the majority of smallholder farmers fall within the age range of 21 to 40 years old, constituting nearly 55 percent of all respondents. This finding underscores the significant role of youth in both urban and rural economies, as evidenced by the graph and table provided. It highlights the crucial contribution of young individuals as the backbone of the economy, emphasizing their active involvement in agricultural activities within rural communities.

Qn. 3: Farmers income level in Tanzanian Shillings per year

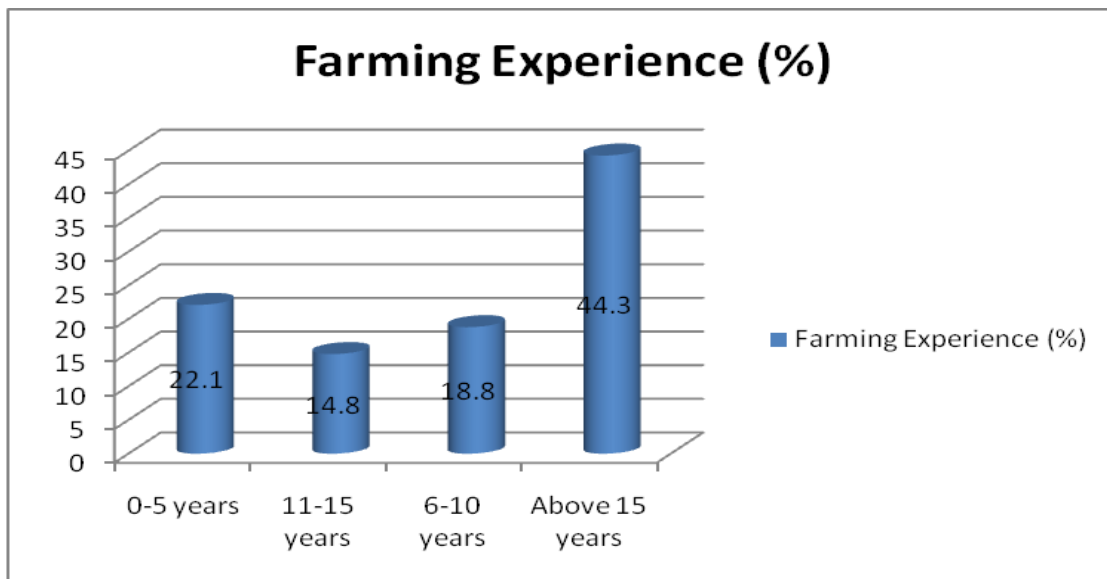
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	100,001 – 200,000	119	31.0	31.0	31.0
	200,001 – 300,000	97	25.3	25.3	56.3
	300,001 – 400,000	34	8.9	8.9	65.1
	Less than 100,000	117	30.5	30.5	95.6
	More than 400,000	17	4.4	4.4	100.0
	Total	384	100.0	100.0	



Regarding income levels, the majority of smallholder farmers appear to earn within the range of 100,001/ to 200,000/ Tanzanian shillings annually, with the next largest group earning less than 100,000/ Tanzanian shillings per year. This indicates a prevalent trend of low-income among these farmers. It suggests the necessity for additional efforts and hard work to foster self-development and elevate their income brackets.

Qn 4: Farming experience years

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5 years	85	22.1	22.1	22.1
	11-15 years	57	14.8	14.8	37.0
	6-10 years	72	18.8	18.8	55.7
	Above 15 years	170	44.3	44.3	100.0
	Total	384	100.0	100.0	

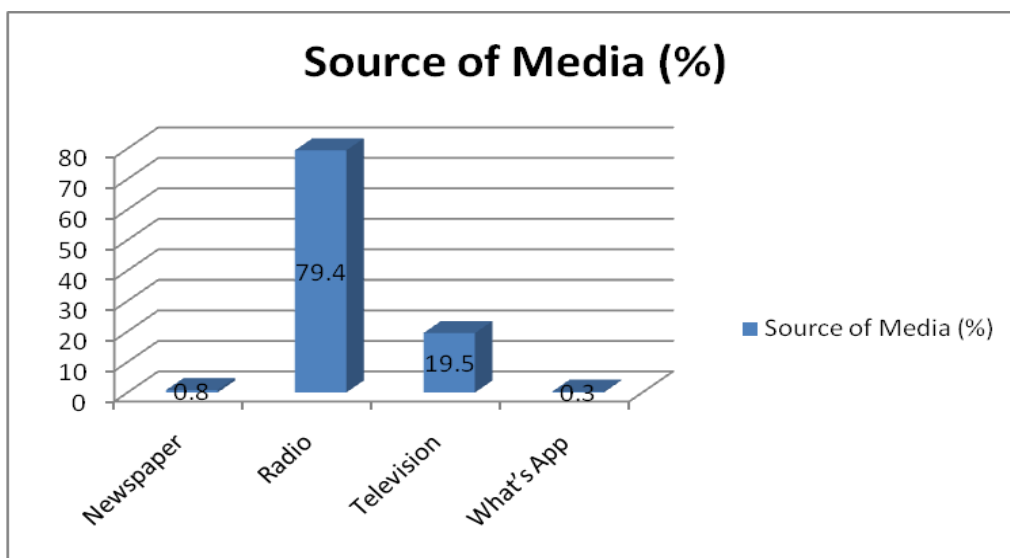


Based on the data, it is evident that a significant portion of smallholder farmers in Tanzania possess extensive experience, with over 15 years of farming experience reported by 170 out of 384 respondents, accounting for 44.3 percent of the total sample. Conversely, there are respondents who are relatively new to farming, with experience ranging from 0 to 5 years, indicating that they are at the outset of their agricultural journey and are still acquainting themselves with farming practices.

4. 2 b. Objective 1: To a study the role of media in inculcating, adaptation of innovation and barriers in agriculture among small holder famers of Tanzania.

Qn. 1; Source of mass media used by farmers in accessing agricultural information

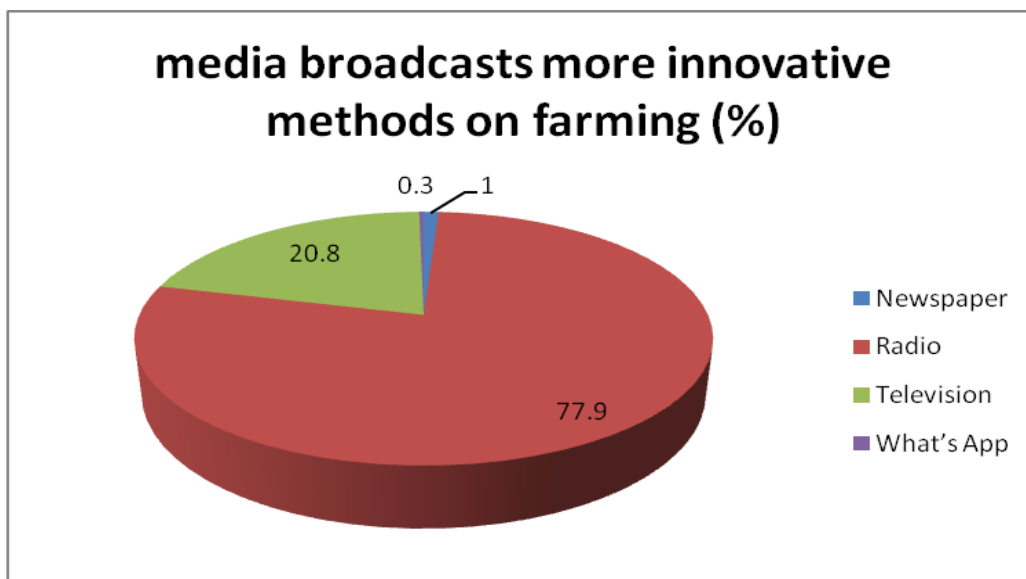
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Newspaper	3	.8	.8	.8
	Radio	305	79.4	79.4	80.2
	Television	75	19.5	19.5	99.7
	Social media (whatsApp)	1	.3	.3	100.0
	Total	384	100.0	100.0	



In relation to the research objectives, it was observed that a majority of smallholder farmers prefer to obtain agricultural knowledge and information through radio broadcasts. According to the data presented in the table and graph, out of 384 respondents, 305 indicated a preference for listening to the radio as their primary source of agricultural information and knowledge. This accounts for more than three-quarters of the total sample. Following closely behind are respondents who prefer to acquire information by watching television. Hence, it can be concluded that the most effective media for disseminating agricultural information and knowledge to smallholder farmers in Tanzania are radio broadcasts, followed by television.

Qn. 2: Media which broadcasts more innovative farming methods.

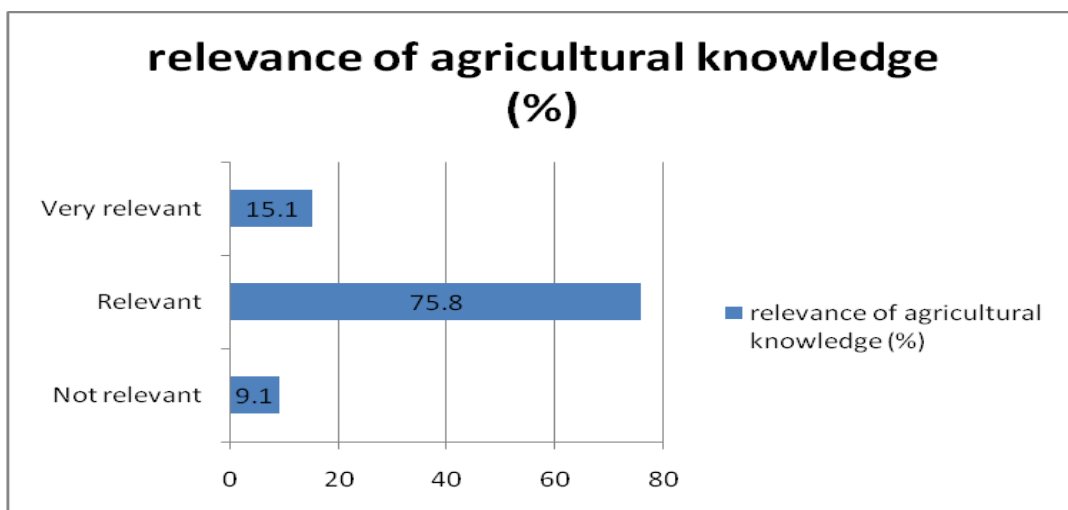
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Newspaper	4	1.0	1.0	1.0
	Radio	299	77.9	77.9	78.9
	Television	80	20.8	20.8	99.7
	Social media (What's App)	1	.3	.3	100.0
	Total	384	100.0	100.0	



In terms of media platforms that broadcast and disseminate innovative farming methods, the data indicates that a significant majority of respondents, comprising almost 80 percent of the total, selected radio as their preferred source. In contrast, television was chosen by only 20.8 percent of respondents. This suggests that radio is perceived as the primary medium for accessing innovative farming techniques among smallholder farmers.

Qn. 3: Frequency distribution of relevance of agricultural knowledge farmers' gain through the mass media

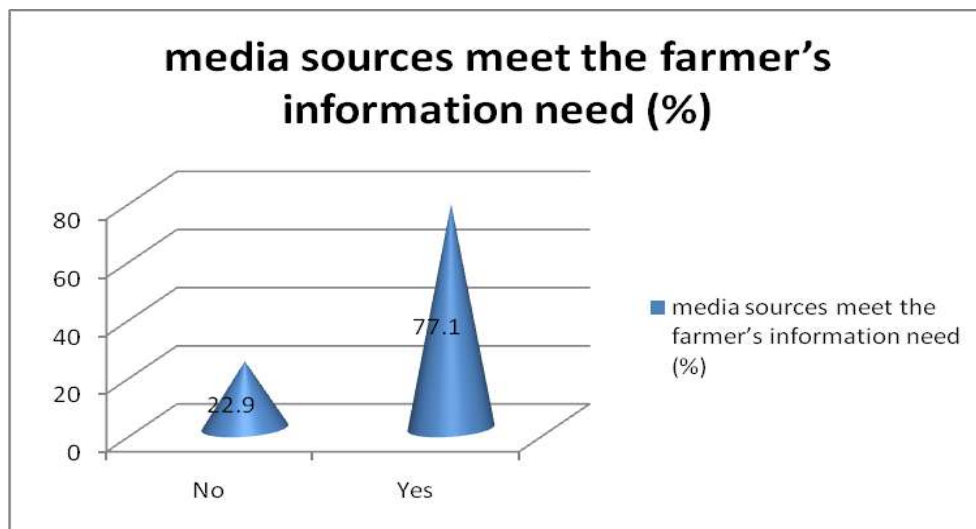
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not relevant	35	9.1	9.1	9.1
	Relevant	291	75.8	75.8	84.9
	Very relevant	58	15.1	15.1	100.0
	Total	384	100.0	100.0	



A large proportion of smallholder farmers expressed that the agricultural knowledge acquired through media platforms is relevant to their daily agricultural practices. Specifically, nearly 80 percent of respondents stated that the information they receive is relevant, while 15.1 percent indicated that it is very relevant. This indicates a high level of alignment between the agricultural knowledge disseminated through media channels and the practical needs and activities of smallholder farmers.

Qn. 4: Do these media sources meet the farmers' needs?

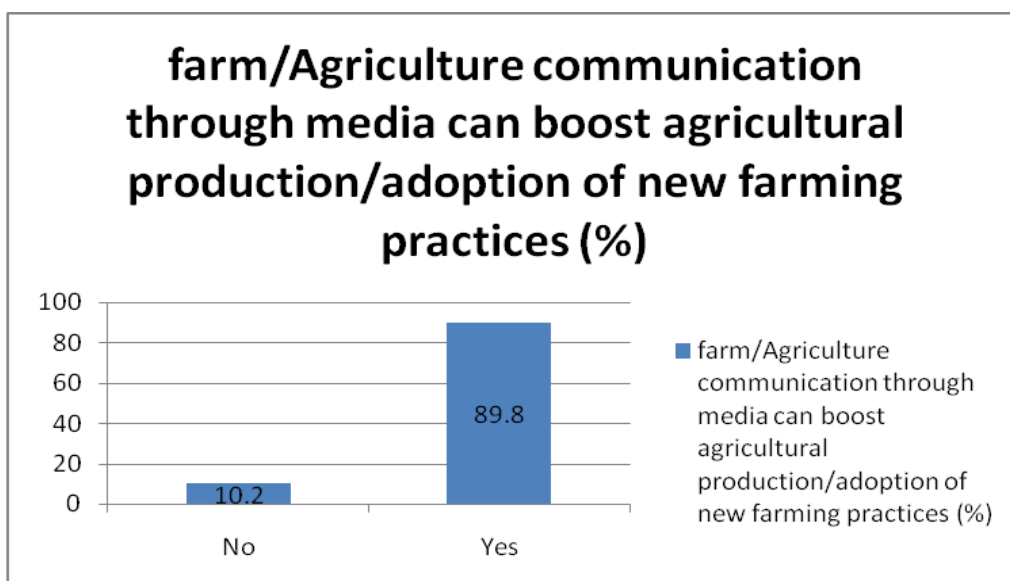
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	88	22.9	22.9	22.9
	Yes	296	77.1	77.1	100.0
	Total	384	100.0	100.0	



A significant majority of respondents, totaling 296 out of 384, which equates to 77.1 percent, expressed that the media sources they selected adequately meet their information needs. This demonstrates a strong consensus among smallholder farmers regarding the effectiveness of the chosen media platforms in fulfilling their informational requirements.

Qn. 5: The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?

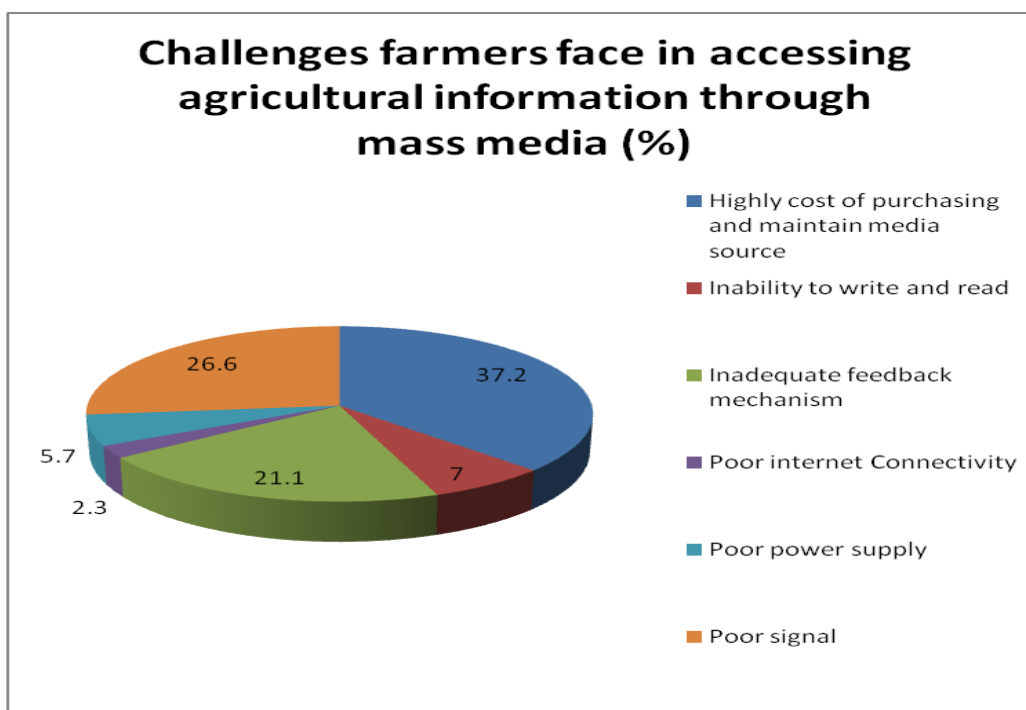
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	39	10.2	10.2	10.2
	Yes	345	89.8	89.8	100.0
	Total	384	100.0	100.0	



Nearly ninety percent of all respondents affirmed that agricultural communication conducted through media channels assists them in enhancing their agricultural production. They attribute this improvement to the adoption of new farming methods and practices disseminated via the media. However, a small fraction of respondents expressed skepticism, indicating that despite attempting to implement techniques learned from agricultural programs in the media, they did not observe any significant differences in their production levels.

Qn. 6: Challenge which farmers are facing during accessing the agricultural information from the mass media

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly cost of purchasing and maintain media source	143	37.2	37.2	37.2
	Inability to write and read	27	7.0	7.0	44.3
	Inadequate feedback mechanism	81	21.1	21.1	65.4
	Poor internet Connectivity	9	2.3	2.3	67.7
	Poor power supply	22	5.7	5.7	73.4
	Poor signal	102	26.6	26.6	100.0
	Total	384	100.0	100.0	

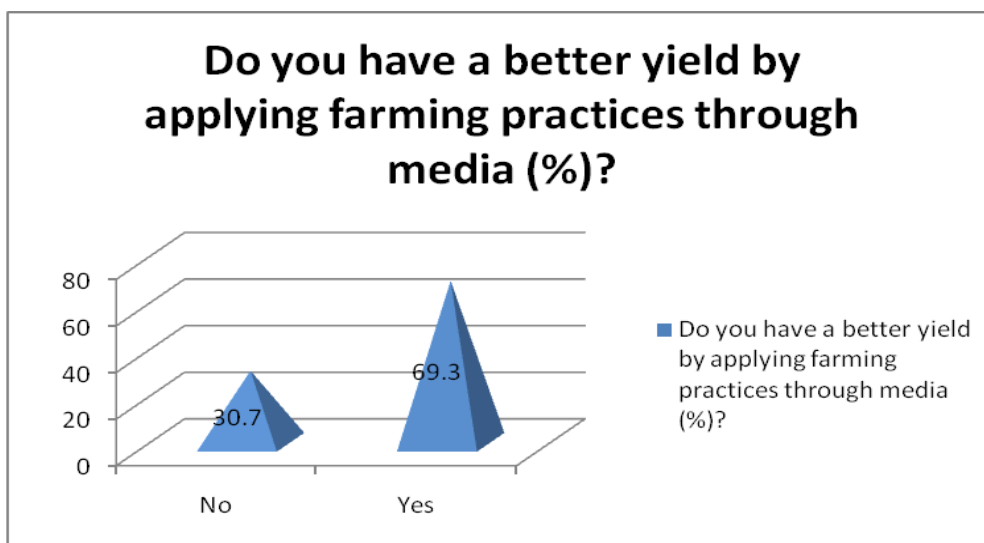


Smallholder farmers encounter various challenges when attempting to access agricultural information and knowledge through mass media. Primarily, the high cost associated with purchasing and maintaining media sources such as radios, televisions, and mobile phones presents a significant barrier. Additionally, poor signal quality, particularly in rural areas of Tanzania, poses a notable challenge. Farmers often experience difficulty receiving clear information due to inadequate radio and television frequencies, further impeding their access to vital agricultural knowledge.

4. 2 c. Objective 2 : To explore the changes in agriculture practices in rural areas of Tanzania through media.

Qn. 1: Do you get the better harvest after applying the farming practices from the media?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	118	30.7	30.7	30.7
	Yes	266	69.3	69.3	100.0
	Total	384	100.0	100.0	

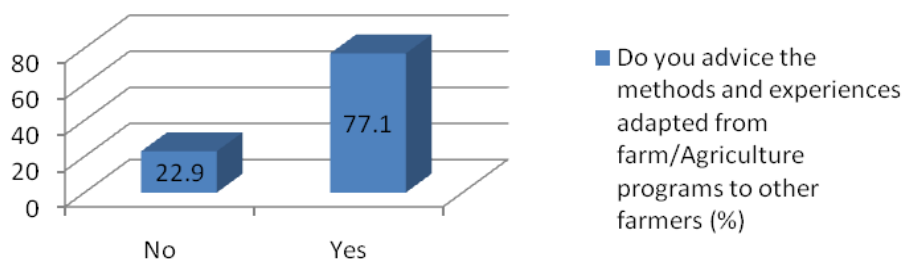


Sixty-nine percent of all respondents, amounting to 266 out of 384, acknowledged that they achieve better harvests and yields when they apply the farming methods and practices broadcasted through the media. This statistic underscores the efficacy of media in delivering valid agricultural information and knowledge that directly contributes to improved farming outcomes for smallholder farmers.

Qn. 2: Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	88	22.9	22.9	22.9
	Yes	296	77.1	77.1	100.0
	Total	384	100.0	100.0	

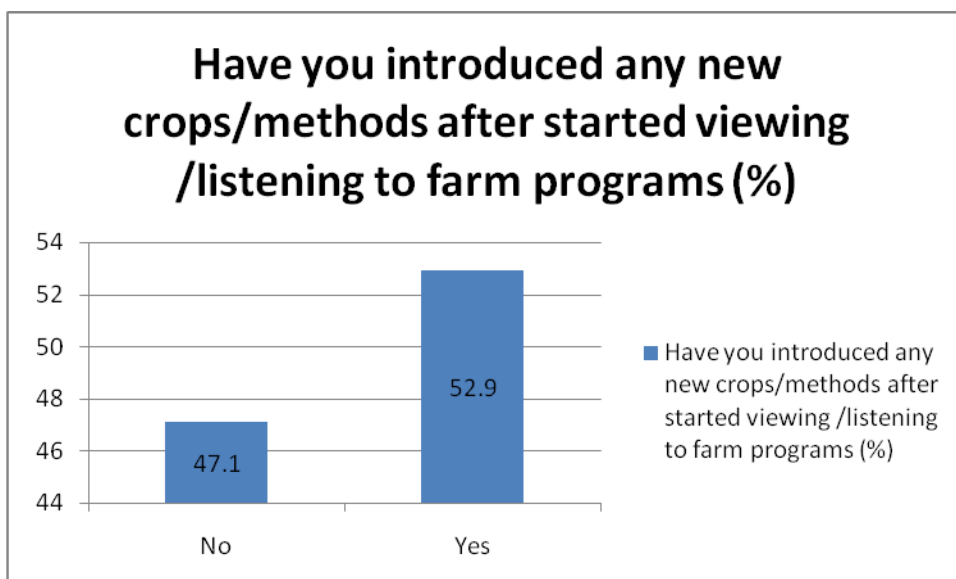
Do you advice the methods and experiences adapted from farm/Agriculture programs to other farmers (%)



The collaborative spirit among smallholder farmers is evident, as demonstrated by the 77.1 percent of respondents, totaling 296 out of 384, who actively share and advise each other on the methods and experiences they have acquired from agricultural programs through media channels. This collective sharing ensures that no farmer is left behind, fostering a supportive environment where knowledge and insights are exchanged for the benefit of all.

Qn. 3: After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?

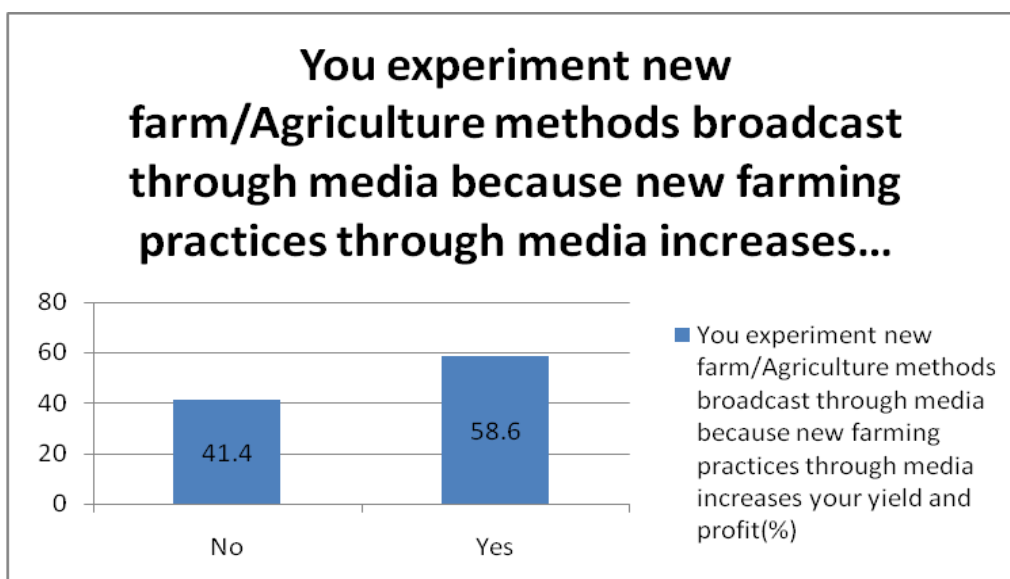
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	181	47.1	47.1	47.1
	Yes	203	52.9	52.9	100.0
	Total	384	100.0	100.0	



Following exposure to agricultural programs through media channels, many smallholder farmers expressed willingness to introduce new crops and methods that they had not previously utilized but found suitable for their circumstances. Through collaboration and knowledge-sharing, a significant majority of farmers indicated a positive response to adopting these new approaches, with almost 55 percent affirming their willingness to do so. This highlights the open-mindedness and adaptability of smallholder farmers in exploring innovative agricultural practices for potentially favorable outcomes.

Qn 4: Do the new farming skills you gain from the media and practice help to increase the harvest and profit?

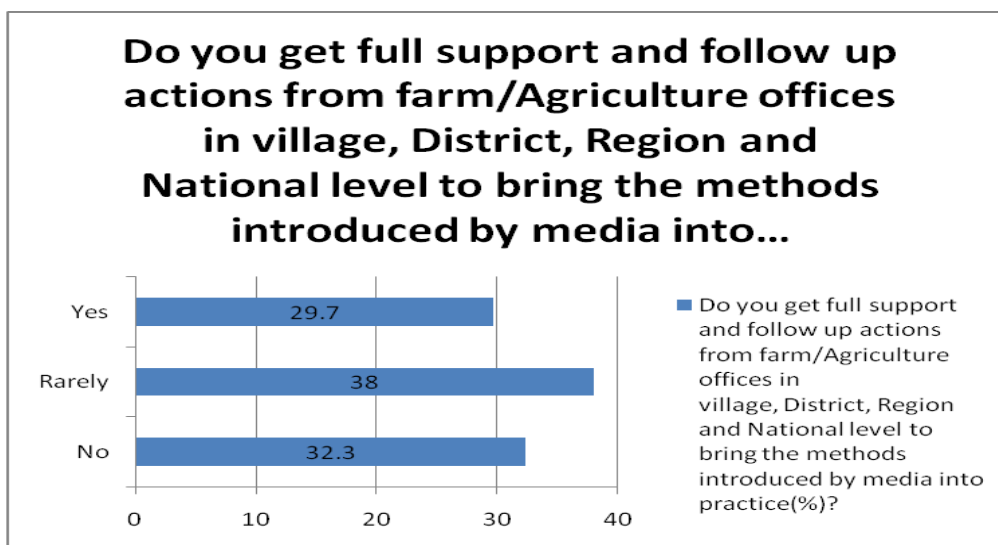
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	159	41.4	41.4	41.4
	Yes	225	58.6	58.6	100.0
	Total	384	100.0	100.0	



225 out of 384 respondents, constituting nearly 59 percent of the total, have embraced and are currently practicing the new agricultural methods disseminated through media channels. These farmers acknowledge the effectiveness of these methods in not only increasing their agricultural yields but also in enhancing their profitability. This statistic underscores the tangible benefits that smallholder farmers derive from adopting innovative agricultural practices promoted through media platforms.

Qn. 5: Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	124	32.3	32.3	32.3
	Rarely	146	38.0	38.0	70.3
	Yes	114	29.7	29.7	100.0
	Total	384	100.0	100.0	

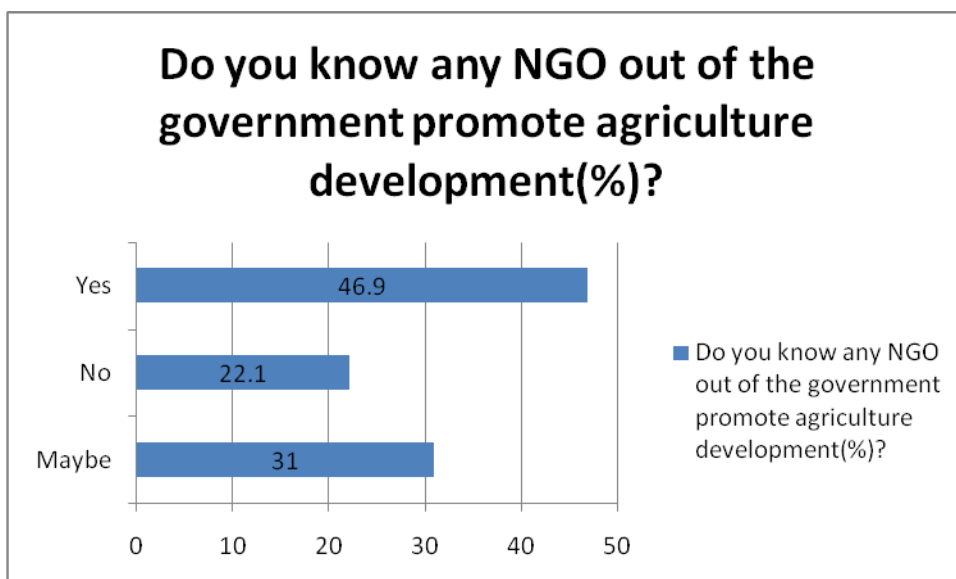


Smallholder farmers face challenges in receiving adequate support and follow-up from agricultural offices and officers across all levels, ranging from the village to the national level, when attempting to implement the agricultural practices learned from media programs. As indicated in the table and graph, 38 percent of respondents reported rarely receiving such support, while 32.3 percent stated that they do not receive any support or follow-up at all from government agricultural officials. This highlights a significant gap in assistance and guidance from relevant authorities, which could potentially hinder the successful adoption and implementation of new agricultural methods by smallholder farmers.

4. 2 d. Objective 3: To find out the communication strategies being used by various agencies to promote agriculture.

Qn. 1: Do you know any NGO out of the government promote agriculture development?

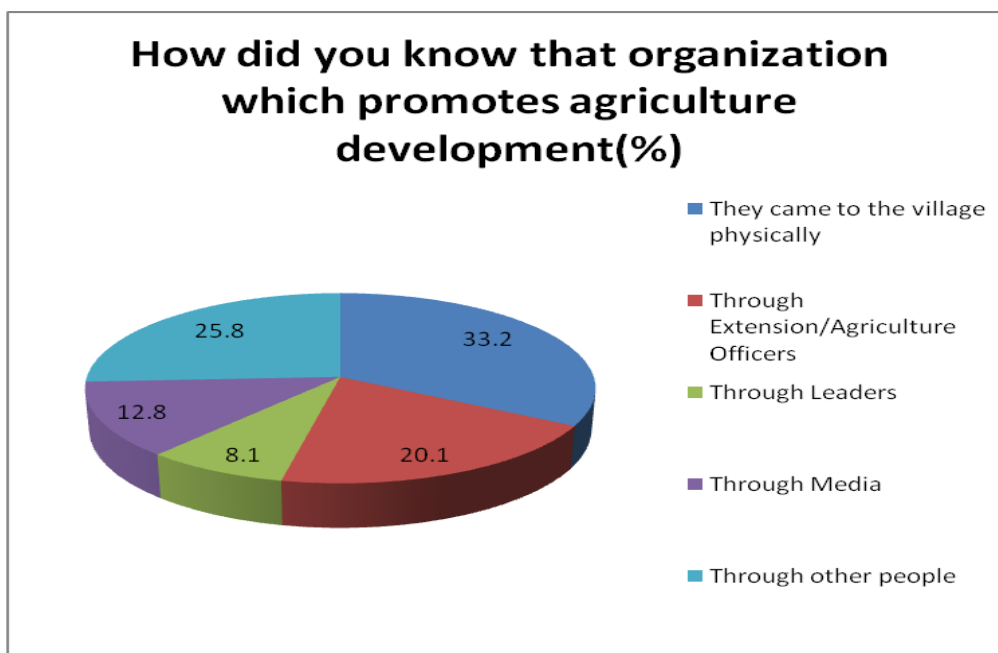
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Maybe	119	31.0	31.0	31.0
	No	85	22.1	22.1	53.1
	Yes	180	46.9	46.9	100.0
	Total	384	100.0	100.0	



In addition to government entities, non-governmental organizations (NGOs) play a crucial role in promoting agriculture and supporting smallholder farmers. The results indicate that almost 47 percent of respondents are aware of these organizations that specialize in agricultural activities. This awareness is attributed to the collaborative efforts between NGOs and farmers, highlighting the significant contribution of these organizations in providing valuable assistance and resources to the agricultural sector.

Qn. 2: How did you know that organization which promotes agriculture development?

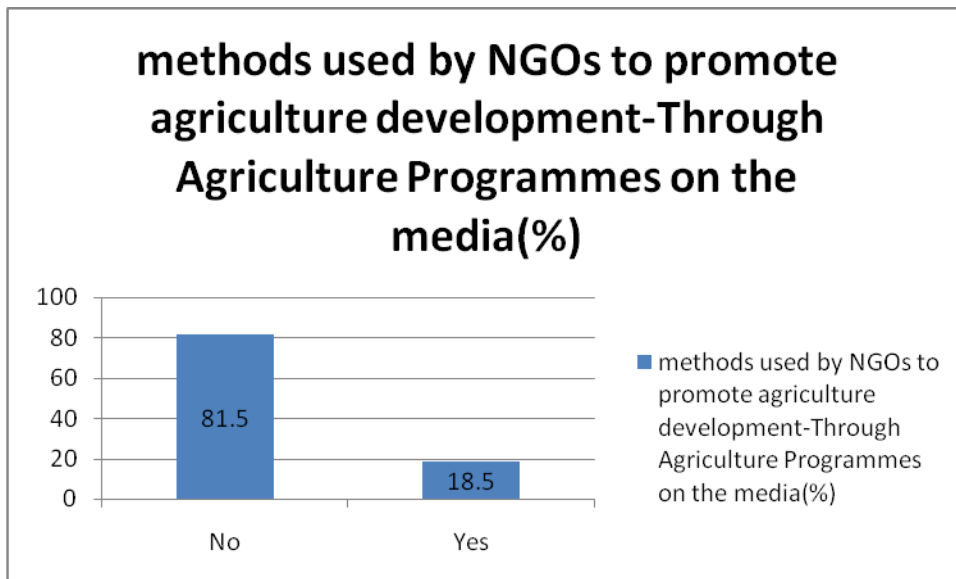
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid					
	They came to the village physically	128	33.2	33.2	33.3
	Through Extension/Agriculture Officers	77	20.1	20.1	53.4
	Through Leaders	31	8.1	8.1	61.5
	Through Media	49	12.8	12.8	74.2
	Through other people	99	25.8	25.8	100.0
	Total	384	100.0	100.0	



Out of the 384 respondents surveyed, 128 mentioned that they became acquainted with NGOs promoting agriculture through direct outreach efforts. Representatives from these NGOs visited their villages and introduced themselves along with the work they do. Additionally, 77 respondents indicated that they learned about these NGOs through agricultural extension services provided by agriculture officers who regularly visit them. This demonstrates the multi-faceted approach employed by NGOs and agricultural officers in reaching out to smallholder farmers and promoting agricultural development.

Qn. 3a: Which methods used by them/NGOs to promote agriculture development/Through Agriculture Programmes on the media

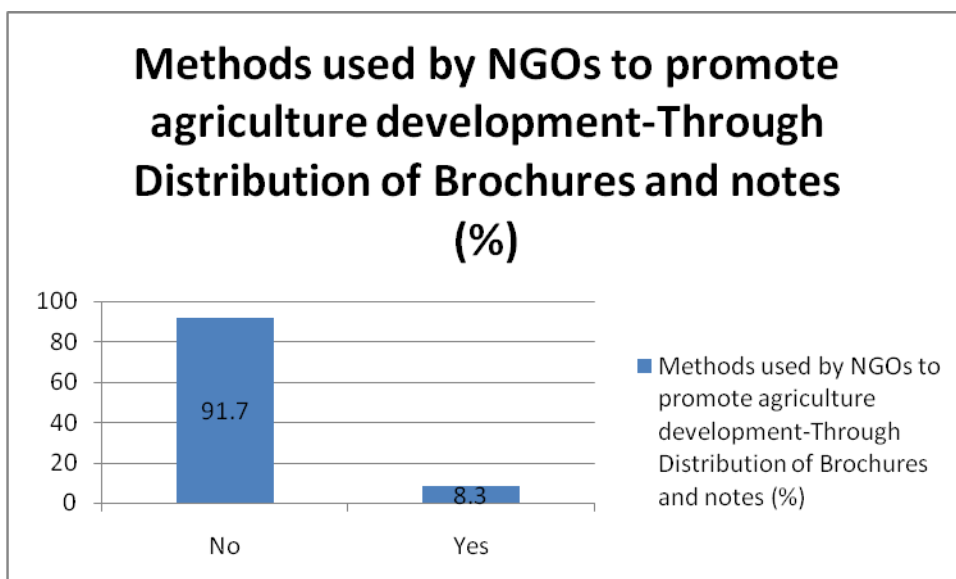
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	313	81.5	81.5	81.5
	Yes	71	18.5	18.5	100.0
	Total	384	100.0	100.0	



According to the research findings, the methods employed by non-governmental organizations (NGOs) to promote agricultural development in Tanzania do not heavily rely on media-based approaches. Approximately 82 percent of the total sample indicated that these NGOs are not utilizing agricultural programs on media platforms to promote agricultural development. This suggests that NGOs are employing alternative strategies or channels for agricultural promotion, highlighting the need for further investigation into their outreach methods and potential areas for improvement in leveraging media for agricultural development initiatives.

Qn. 3b: Which methods used by them/NGOs to promote agriculture development/Distribution of Brochures and notes

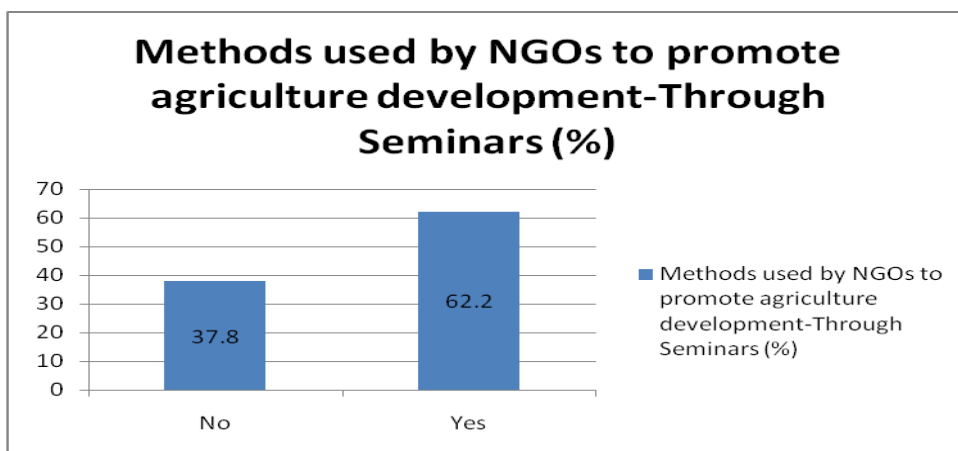
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	352	91.7	91.7	91.7
	Yes	32	8.3	8.3	100.0
	Total	384	100.0	100.0	



The research findings indicate that non-governmental organizations (NGOs) are not extensively utilizing the distribution of brochures and notes as a means to promote agricultural development. A significant majority of smallholder farmers, comprising 352 out of 384 respondents, reported that NGOs do not employ brochures and notes for this purpose. This underscores the limited utilization of traditional print materials by NGOs in their efforts to promote agricultural development, suggesting a potential gap in communication strategies that could be explored for improved outreach and engagement with farmers.

Qn. 3c. Which methods used by them/NGOs to promote agriculture development/Through Seminars

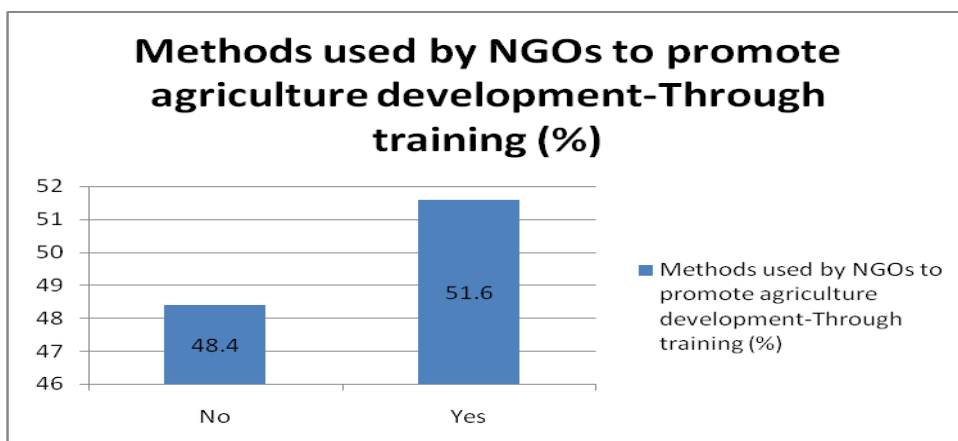
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	145	37.8	37.8	37.8
	Yes	239	62.2	62.2	100.0
	Total	384	100.0	100.0	



The data from the table and graph indicate that non-governmental organizations (NGOs) primarily utilize seminars as a method to promote agricultural development among smallholder farmers in Tanzania. Approximately 62.2 percent of respondents confirmed the use of seminars by NGOs for this purpose. These seminars serve as platforms for NGOs to engage with farmers, providing them with information about their vision, mission, and goals related to agricultural development. This underscores the importance of direct engagement and communication in promoting agricultural initiatives and fostering collaboration between NGOs and smallholder farmers.

Qn. 3d: Which methods used by them/NGOs to promote agriculture development/Through training

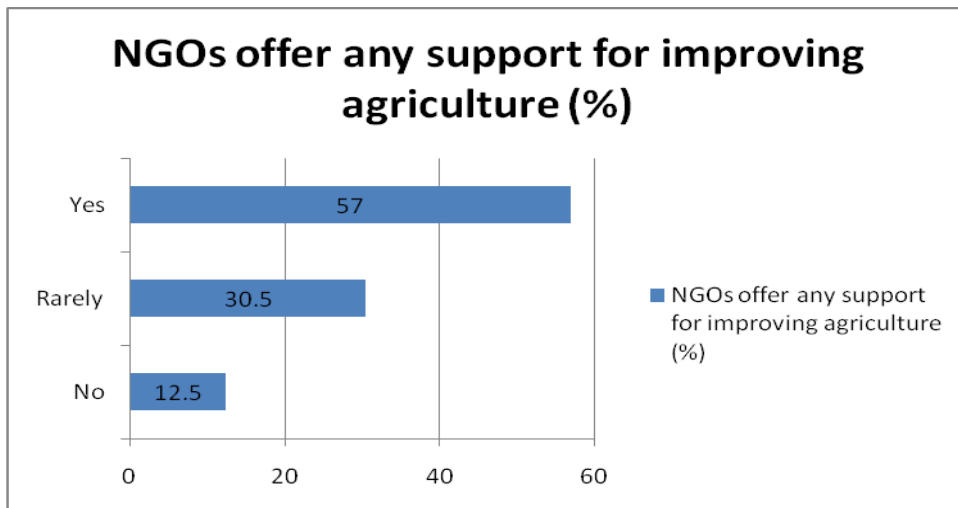
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	186	48.4	48.4	48.4
	Yes	198	51.6	51.6	100.0
	Total	384	100.0	100.0	



In addition to seminars, NGOs specializing in agriculture promotion often provide training sessions to smallholder farmers. These training sessions aim to educate farmers about the various resources and support offered by the NGOs, including seeds, fertilizers, equipment, and educational materials. The training covers a wide range of topics, from best practices in farm management, planting techniques, to harvesting methods, all geared towards optimizing agricultural productivity and increasing profits for smallholder farmers. Through these comprehensive training programs, NGOs aim to empower farmers with the knowledge and skills necessary to enhance their agricultural practices and improve their livelihoods.

Qn. 4: Do they/NGOs offer any support for improving agriculture?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	48	12.5	12.5	12.5
	Rarely	117	30.5	30.5	43.0
	Yes	219	57.0	57.0	100.0
	Total	384	100.0	100.0	

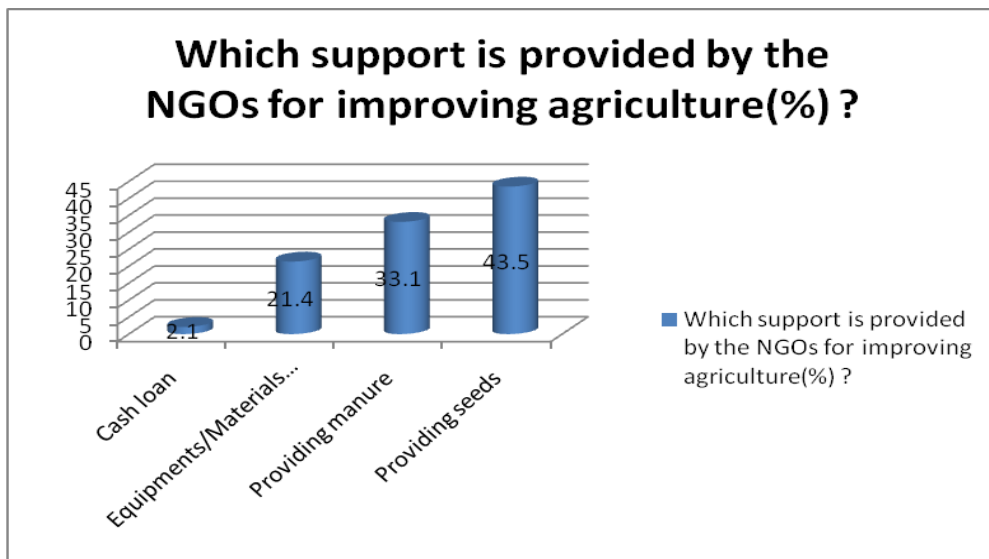


According to the survey results, 57 percent of respondents, equivalent to 219 out of 384, affirmed that NGOs specializing in agriculture development offer support to improve agricultural practices in their respective areas. On the other hand, nearly 31 percent of respondents, totaling 117 individuals, reported receiving support only rarely from these NGOs. These findings suggest varying levels of support provided by NGOs to

smallholder farmers, with a significant portion of respondents acknowledging the presence of support initiatives, albeit with some reporting infrequent assistance.

Qn. 5: Which support is provided by the NGOs for improving agriculture?

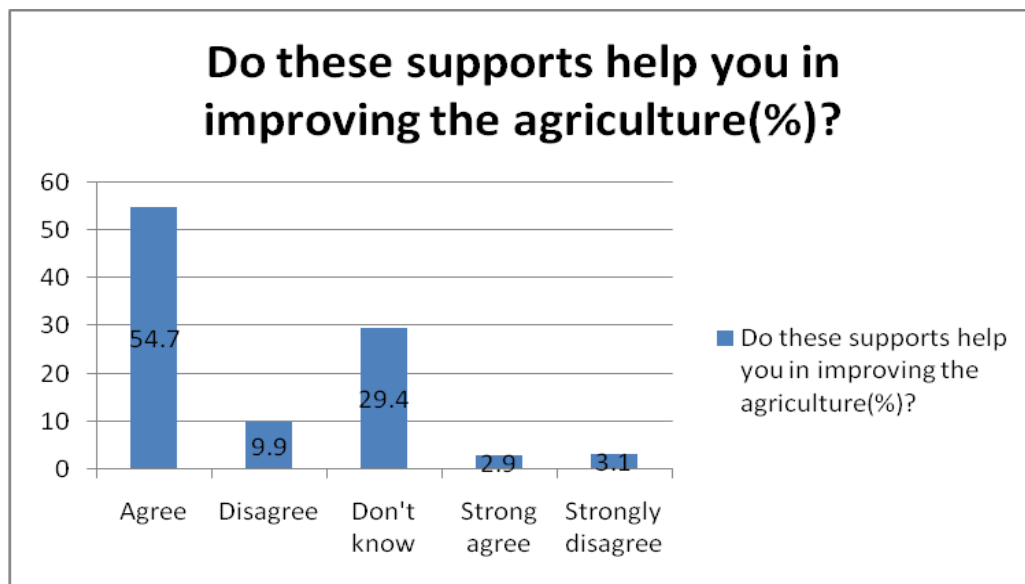
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Cash loan	8	2.1	2.1	2.1
	Equipments/Materials loan	82	21.4	21.4	23.4
	Providing manure	127	33.1	33.1	56.5
	Providing seeds	167	43.5	43.5	100.0
	Total	384	100.0	100.0	



The support provided by non-governmental organizations (NGOs) specializing in agriculture development to smallholder farmers primarily includes the provision of seeds suitable for their specific land and environmental conditions, as well as manure to promote healthy growth and better yields. According to the table and graph results, approximately 44 percent of small-scale farmers reported receiving seeds from these NGOs, while 33.1 percent mentioned receiving manure. These supports aim to enhance agricultural productivity and ensure better harvesting and product outcomes for smallholder farmers.

Qn. 6: Do these supports help you in improving the agriculture?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	210	54.7	54.7	54.7
	Disagree	38	9.9	9.9	64.6
	Don't know	113	29.4	29.4	94.0
	Strong agree	11	2.9	2.9	96.9
	Strongly disagree	12	3.1	3.1	100.0
	Total	384	100.0	100.0	

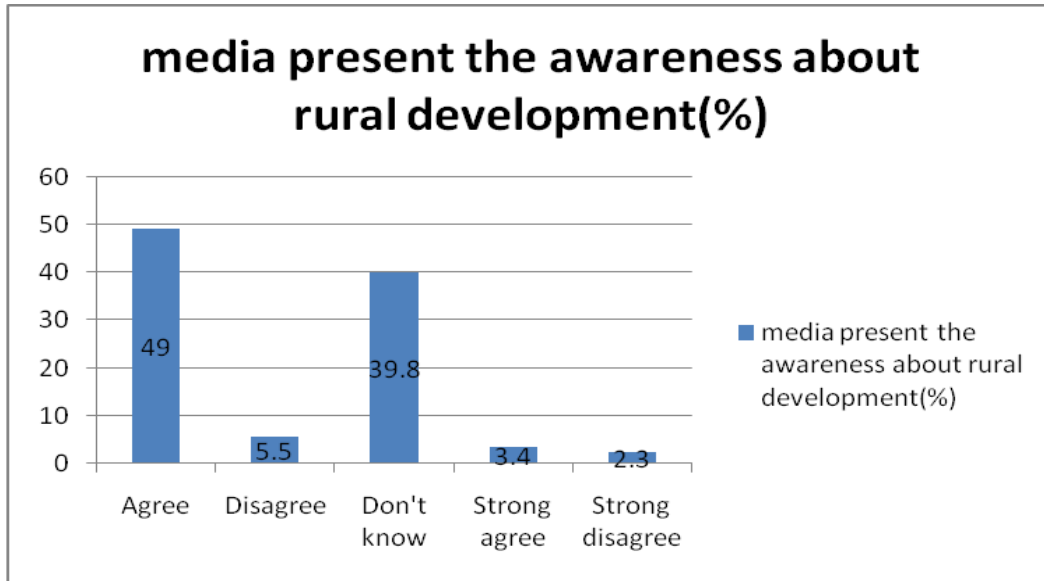


A significant majority of respondents, totaling 210 out of 384 individuals, which is nearly 55 percent, acknowledged that the support they receive from Non-Governmental Organizations (NGOs) specializing in agriculture development has greatly contributed to improving their agricultural practices. These supports have resulted in better harvests and yields compared to previous outcomes, ultimately leading to increased profits and higher incomes for smallholder farmers. This highlights the valuable impact of NGO support in enhancing agricultural productivity and livelihoods within the farming community.

4. 2 e. Objective 4 : To examine the role of media in the development of the rural areas in Tanzania.

Qn. 1: Media brings the understanding knowledge concern rural development

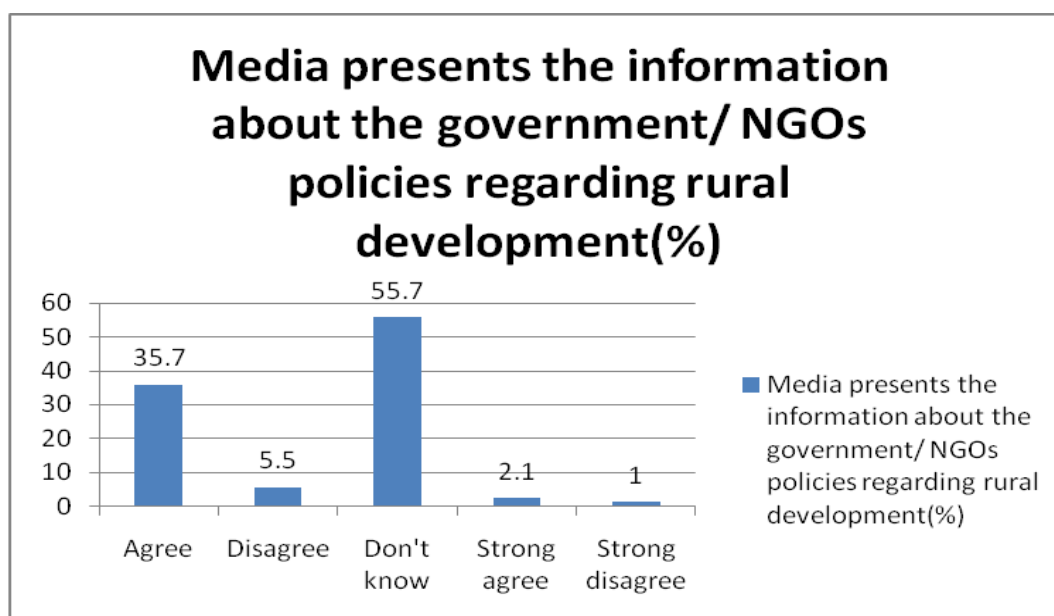
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	188	49.0	49.0	49.0
	Disagree	21	5.5	5.5	54.4
	Don't know/Neutral	153	39.8	39.8	94.3
	Strong agree	13	3.4	3.4	97.7
	Strong disagree	9	2.3	2.3	100.0
	Total	384	100.0	100.0	



Nearly half of the respondents, amounting to 188 individuals according to the table and graph results, acknowledged that the media plays a role in raising awareness about rural development. This indicates that a significant portion of smallholder farmers in rural areas are knowledgeable and aware of the development initiatives and progress in their communities through media channels.

Qn. 2: Media presents the information about the government/ NGOs policies regarding rural development

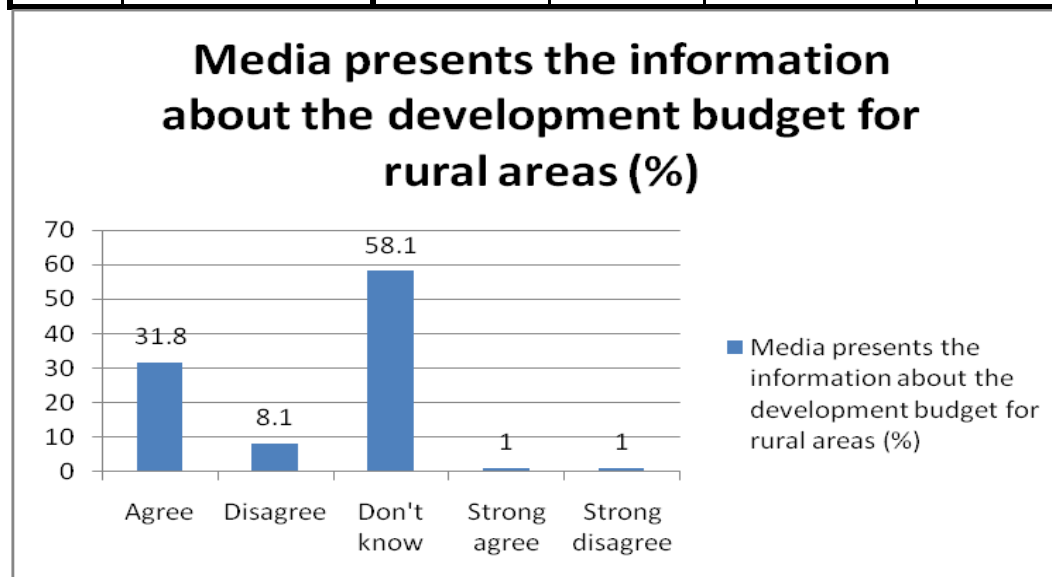
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	137	35.7	35.7	35.7
	Disagree	21	5.5	5.5	41.1
	Don't know/ Neutral	214	55.7	55.7	96.9
	Strong agree	8	2.1	2.1	99.0
	Strong disagree	4	1.0	1.0	100.0
	Total	384	100.0	100.0	



It appears that farmers have limited awareness of rural development policies implemented by both the government and non-governmental organizations (NGOs) due to a lack of information dissemination through media channels. This suggests a crucial need for increased efforts by both government agencies and NGOs to raise awareness about rural development policies among smallholder farmers in Tanzania. By actively promoting and communicating these policies through accessible and comprehensible means, such as media campaigns and community outreach programs, stakeholders can ensure that farmers are informed and empowered to participate in rural development initiatives effectively. This inclusive approach is essential for fostering sustainable development and improving livelihoods in rural areas.

Qn. 3: Media presents the information about the development budget for rural areas

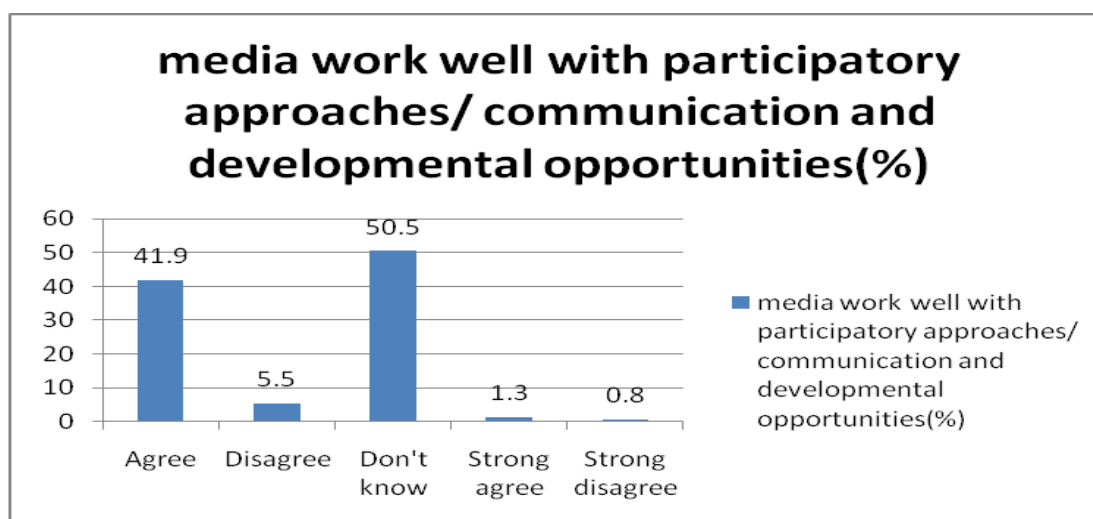
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	122	31.8	31.8	31.8
	Disagree	31	8.1	8.1	39.8
	Don't know/ Neutral	223	58.1	58.1	97.9
	Strong agree	4	1.0	1.0	99.0
	Strong disagree	4	1.0	1.0	100.0
	Total	384	100.0	100.0	



It's concerning that more than half of the respondents (58.1%) are unaware of whether the media presents information about the development budget for rural areas in Tanzania. This underscores the need for media outlets to intensify their efforts in disseminating such critical information to rural communities. Access to information about development budgets is crucial for smallholder farmers as it allows them to understand and advocate for the allocation of resources towards rural development initiatives that directly impact their livelihoods. Increased transparency and communication regarding development budgets through media channels can empower farmers to actively participate in decision-making processes and ensure that their needs are adequately addressed.

**Qn. 4: Media works well with the participatory approaches/
communication and developmental opportunities**

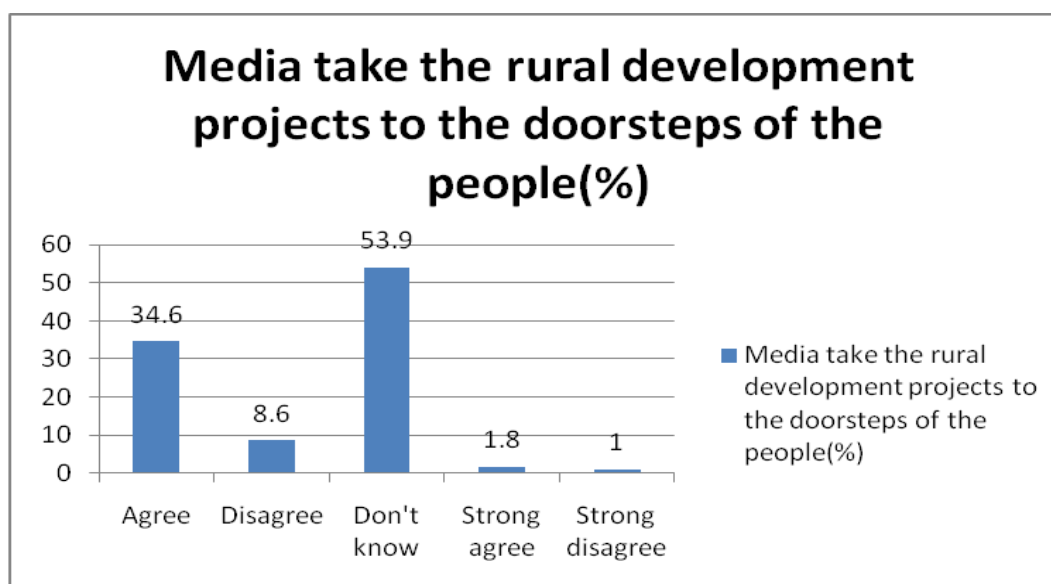
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	161	41.9	41.9	41.9
	Disagree	21	5.5	5.5	47.4
	Don't know/ Neutral	194	50.5	50.5	97.9
	Strong agree	5	1.3	1.3	99.2
	Strong disagree	3	.8	.8	100.0
	Total	384	100.0	100.0	



Approximately 42 percent of respondents recognize the effectiveness of media in participatory rural appraisal, acknowledging its role in empowering smallholder farmers and other stakeholders to identify and address various challenges. This citizen-centered approach facilitates the active involvement of community members in problem-solving and decision-making processes, along with monitoring and evaluation activities. However, it's noteworthy that more than 50 percent of respondents are unaware of whether media effectively engages in participatory rural appraisal. This lack of awareness may stem from limited participation in development-related events within their villages. Encouraging greater community involvement and awareness-building initiatives can help bridge this gap and enhance the effectiveness of media-driven participatory approaches in rural development.

Qn. 5: Media take the rural development projects to the doorsteps of the people

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	133	34.6	34.6	34.6
	Disagree	33	8.6	8.6	43.2
	Don't know/ Neutral	207	53.9	53.9	97.1
	Strong agree	7	1.8	1.8	99.0
	Strong disagree	4	1.0	1.0	100.0
	Total	384	100.0	100.0	



It seems that there is a lack of awareness among smallholder farmers regarding whether the media effectively brings rural development projects to their doorsteps. Approximately 54 percent of respondents expressed uncertainty about this, possibly due to the busy nature of their daily farm activities, which may limit their interaction with media representatives. However, 133 respondents, equivalent to almost 35 percent, confirmed that media indeed take rural development projects directly to the people. This suggests that efforts are being made by media outlets to engage with rural communities and disseminate information about development projects, although there is room for improvement in reaching a wider audience and increasing awareness among smallholder farmers.

4. 3. Cross Tabulation & Chi-Squire Tables with Descriptions

4.3a: Objective 1: To a study the role of media in inculcating, adaptation of innovation and barriers in agriculture among small holder famers of Tanzania.

Source of mass media used by farmers in accessing agricultural information * Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q9 B1 Source of mass media used by farmers in accessing agricultural information	Newspaper	Count	1	2	3
		% within Q9 B1 Source of mass media used by farmers in accessing agricultural information	33.3%	66.7%	100.0%
		% within Q1 Sex of the respondent	0.5%	1.1%	0.8%
	Radio	Count	174	131	305
		% within Q9 B1 Source of mass media used by farmers in accessing agricultural information	57.0%	43.0%	100.0%
		% within Q1 Sex of the respondent	86.1%	72.0%	79.4%
	Televison	Count	27	48	75
		% within Q9 B1 Source of mass media used by farmers in accessing agricultural information	36.0%	64.0%	100.0%
		% within Q1 Sex of the respondent	13.4%	26.4%	19.5%
	What's	Count	0	1	1

	App	% within Q9 B1 Source of mass media used by farmers in accessing agricultural information	0.0%	100.0%	100.0%
		% within Q1 Sex of the respondent	0.0%	0.5%	0.3%
Total	Count		202	182	384
	% within Q9 B1 Source of mass media used by farmers in accessing agricultural information		52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent		100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.267^a	3	.007
Likelihood Ratio	12.726	3	.005
N of Valid Cases	384		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .47.

Based on the results indicating that male farmers prefer newspapers as their primary source of agricultural information, while female farmers prefer radio, it appears that there is a significant difference in media preference based on gender among smallholder farmers. The calculated chi-square value (p value = .007) is smaller than the critical chi-square value (.05), leading to the rejection of the null hypothesis. This suggests that there is indeed a significant association between gender and media preference for accessing agricultural information among smallholder farmers. Specifically, while the majority of farmers overall prefer radio, there is a notable divergence in media preference between male and female farmers, with males favoring newspapers.

The media which broadcasts the more innovative farming methods * Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q10 B2 Media which broadcasts more innovative farming methods	Newspaper	Count	2	2	4
		% within Q10 B2 Media which broadcasts more innovative farming methods	50.0%	50.0%	100.0%
		% within Q1 Sex of the respondent	1.0%	1.1%	1.0%
	Radio	Count	171	128	299
		% within Q10 B2 Media which broadcasts more innovative farming methods	57.2%	42.8%	100.0%
		% within Q1 Sex of the respondent	84.7%	70.3%	77.9%
	Television	Count	29	51	80
		% within Q10 B2 Media which broadcasts more innovative farming methods	36.3%	63.8%	100.0%
		% within Q1 Sex of the respondent	14.4%	28.0%	20.8%
	What's App	Count	0	1	1
		% within Q10 B2 Media which broadcasts more innovative farming methods	0.0%	100.0%	100.0%
		% within Q1 Sex of the respondent	0.0%	0.5%	0.3%
Total		Count	202	182	384
		% within Q10 B2 Media which broadcasts more innovative farming methods	52.6%	47.4%	100.0%

	% within Q1 Sex of the respondent	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.225^a	3	.007
Likelihood Ratio	12.678	3	.005
N of Valid Cases	384		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .47.

Based on the calculated chi-square value of 12.225^a and a significance level of .007, which is smaller than the critical value of chi-square, the null hypothesis is rejected. This indicates that there is a significant association between gender and media preference for accessing agricultural information among smallholder farmers. The data suggests that while radio is the primary source for broadcasting innovative farming methods, a notable gender difference exists in media preference, with female farmers favoring radio and male farmers preferring newspapers.

Occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media * Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q11 B3 occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media	Not relevant	Count	19	16	35
		% within Q11 B3 occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	54.3%	45.7%	100.0%
		% within Q1 Sex of the respondent	9.4%	8.8%	9.1%
	Relevant	Count	153	138	291

		% within Q11 B3 occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	52.6%	47.4%	100.0%
		% within Q1 Sex of the respondent	75.7%	75.8%	75.8%
	Very relevant	Count	30	28	58
		% within Q11 B3 occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	51.7%	48.3%	100.0%
		% within Q1 Sex of the respondent	14.9%	15.4%	15.1%
Total	Count		202	182	384
	% within Q11 B3 occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?		52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent		100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.058 ^a	2	.972
Likelihood Ratio	.058	2	.971
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.59.

Based on the provided data, the null hypothesis is accepted since the calculated p-value (.058^a) is greater than the significance level of .05. This indicates that there is no significant association between the relevance of agricultural knowledge gained through mass media and the different media channels (radio, newspapers, and television). Therefore, it can be concluded that radio, newspapers, and television are effectively disseminating agricultural information and knowledge that are relevant to farmers' practices.

Do these media sources meet the farmers' needs?* Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q12 B4 Do these media sources meet the farmers' needs?	No	Count	52	36	88
		% within Q12 B4 Do these media sources meet the farmers' needs?	59.1%	40.9%	100.0%
		% within Q1 Sex of the respondent	25.7%	19.8%	22.9%
	Yes	Count	150	146	296
		% within Q12 B4 Do these media sources meet the farmers' needs?	50.7%	49.3%	100.0%
		% within Q1 Sex of the respondent	74.3%	80.2%	77.1%
Total		Count	202	182	384

	% within Q12 B4 Do these media sources meet the farmers' needs?	52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.927 ^a	1	.165
Continuity Correction ^b	1.604	1	.205
Likelihood Ratio	1.937	1	.164
Fisher's Exact Test			
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 41.71.

b. Computed only for a 2x2 table

Based on the provided statistical analysis, the null hypothesis is accepted since the calculated p-value (1.927^a) is greater than the significance level of .05. This suggests that there is no significant association between mass media sources meeting farmers' information needs and sex of the respondents. Therefore, it can be concluded that radio, newspapers, and television are effectively disseminating agricultural information and knowledge that meet farmers' needs.

The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?* Q1 Sex of the respondent

					Q1 Sex of the respondent		Total
					Female	Male	
Q13	B5	The	No	Count	24	15	39

agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?		% within Q13 B5 The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?	61.5%	38.5%	100.0%
		% within Q1 Sex of the respondent	11.9%	8.2%	10.2%
	Yes	Count	178	167	345
		% within Q13 B5 The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?	51.6%	48.4%	100.0%
		% within Q1 Sex of the respondent	88.1%	91.8%	89.8%
Total	Count		202	182	384
	% within Q13 B5 The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?		52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent		100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.390 ^a	1	.238
Continuity Correction ^b	1.020	1	.313

Likelihood Ratio	1.404	1	.236
Fisher's Exact Test			
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 18.48.

b. Computed only for a 2x2 table

Based on the statistical analysis provided, the null hypothesis is accepted since the calculated p-value (1.390^a) is greater than the significance level of .05. This indicates that there is no significant association between agriculture communication through media and the boost in agricultural production or adoption of new farming practices with the gender of respondents. Therefore, it can be concluded that agriculture communication through media may not have a significant impact on gender/sex and agricultural production or the adoption of new farming practices based on the data provided.

The challenge which farmers are facing during accessing the agricultural information from the mass media * Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q14 B6 the challenge which farmers are facing during accessing the agricultural information from the mass media	Highly cost of purchasing and maintain media source	Count	76	67	143
		% within Q14 B6 the challenge which farmers are facing during accessing the agricultural information from the mass media	53.1%	46.9%	100.0%
		% within Q1 Sex of the respondent	37.6%	36.8%	37.2%
	Inability to write and read	Count	14	13	27
		% within Q14 B6 the challenge which farmers are facing during accessing the agricultural information from the mass media	51.9%	48.1%	100.0%

		% within Q1 Sex of the respondent	6.9%	7.1%	7.0%
	Inadequate feedback mechanism	Count	49	32	81
		% within Q14 B6 the challenge which farmers are facing during accessing the agricultural information from the mass media	60.5%	39.5%	100.0%
		% within Q1 Sex of the respondent	24.3%	17.6%	21.1%
	Poor internet Connectivity	Count	3	6	9
		% within Q14 B6 the challenge which farmers are facing during accessing the agricultural information from the mass media	33.3%	66.7%	100.0%
		% within Q1 Sex of the respondent	1.5%	3.3%	2.3%
	Poor power supply	Count	10	12	22
		% within Q14 B6 the challenge which farmers are facing during accessing the agricultural information from the mass media	45.5%	54.5%	100.0%
		% within Q1 Sex of the respondent	5.0%	6.6%	5.7%
	Poor signal	Count	50	52	102
		% within Q14 B6 the challenge which farmers are facing during accessing the agricultural information from the mass media	49.0%	51.0%	100.0%

		% within Q1 Sex of the respondent	24.8%	28.6%	26.6%
Total	Count		202	182	384
	% within Q14 B6 the challenge which farmers are facing during accessing the agricultural information from the mass media		52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent		100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.363 ^a	5	.498
Likelihood Ratio	4.397	5	.494
N of Valid Cases	384		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 4.27.

Farmers concur that the high cost of acquiring and maintaining media sources, along with poor signal reception, are the predominant challenges encountered when accessing agricultural information through mass media channels. This assertion is substantiated by the statistical analysis, revealing a p-value of 4.363^a and an Asymp. Sig of .498, which exceeds the critical value of .05. Consequently, the null hypothesis is deemed significant and accepted.

4.3b: Objective 2: To explore the changes in agriculture practices in rural areas of Tanzania through media.

Do you get the better harvest after applying the farming practices from the media?

*** Q1 Sex of the respondent**

			Q1 Sex of the respondent		Total
			Female	Male	
Q15 C1 Do you get the	No	Count	71	47	118

better harvest after applying the farming practices from the media?		% within Q15 C1 Do you get the better harvest after applying the farming practices from the media?	60.2%	39.8%	100.0%
		% within Q1 Sex of the respondent	35.1%	25.8%	30.7%
	Yes	Count	131	135	266
		% within Q15 C1 Do you get the better harvest after applying the farming practices from the media?	49.2%	50.8%	100.0%
		% within Q1 Sex of the respondent	64.9%	74.2%	69.3%
Total	Count		202	182	384
	% within Q15 C1 Do you get the better harvest after applying the farming practices from the media?		52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent		100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.910^a	1	.048
Continuity Correction ^b	3.485	1	.062
Likelihood Ratio	3.934	1	.047
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 55.93.

b. Computed only for a 2x2 table

Farmers experience improved yields through the adoption of farming practices learned via media channels. This assertion is supported by the statistical analysis, revealing a p-

chi square bvalue of 3.910^a and an Asymp. Sig p-value of .048, which is close to the significance threshold of .05. When the p-value is greater than or equal to .05, the null hypothesis is considered significant and accepted.

Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?* Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q16 C2 Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	No	Count	50	38	88
		% within Q16 C2 Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	56.8%	43.2%	100.0%
		% within Q1 Sex of the respondent	24.8%	20.9%	22.9%
	Yes	Count	152	144	296
		% within Q16 C2 Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	51.4%	48.6%	100.0%
		% within Q1 Sex of the respondent	75.2%	79.1%	77.1%
Total		Count	202	182	384

	% within Q16 C2 Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.813 ^a	1	.367
Continuity Correction ^b	.609	1	.435
Likelihood Ratio	.816	1	.366
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 41.71.

b. Computed only for a 2x2 table

In this case, the null hypothesis is deemed significant and accepted, indicating that farmers do advise other farmers on the methods and experiences acquired from agricultural programs. This conclusion is supported by the statistical analysis, with a p-value of .813^a and an Asymp. Sig of .367, which exceeds the threshold of .05.

After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?* Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q17 C3 After watching	No	Count	97	84	181

and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?		% within Q17 C3 After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?	53.6%	46.4%	100.0%
		% within Q1 Sex of the respondent	48.0%	46.2%	47.1%
	Yes	Count	105	98	203
		% within Q17 C3 After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?	51.7%	48.3%	100.0%
		% within Q1 Sex of the respondent	52.0%	53.8%	52.9%
Total		Count	202	182	384

	% within Q17 C3 After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?	52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.134 ^a	1	.715
Continuity Correction ^b	.069	1	.792
Likelihood Ratio	.134	1	.715
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 85.79.

b. Computed only for a 2x2 table

The statistical analysis suggests that it is significant that farmers introduced new crops and methods after beginning to watch and listen to farm programs through media channels. This conclusion is supported by a p-value of .134^a and an Asymp. Sig of .715, both of which are greater than the threshold of .05. Therefore, the null hypothesis is accepted.

Do the new farming skills you gain from the media and practice help to increase the harvest and profit?

*** Q1 Sex of the respondent**

			Q1 Sex of the respondent		Total
			Female	Male	
Q18 C4 Do the new	No	Count	94	65	159

farming skills you gain from the media and practice help to increase the harvest and profit?		% within Q18 C4 Do the new farming skills you gain from the media and practice help to increase the harvest and profit?	59.1%	40.9%	100.0%
		% within Q1 Sex of the respondent	46.5%	35.7%	41.4%
	Yes	Count	108	117	225
		% within Q18 C4 Do the new farming skills you gain from the media and practice help to increase the harvest and profit?	48.0%	52.0%	100.0%
		% within Q1 Sex of the respondent	53.5%	64.3%	58.6%
Total		Count	202	182	384
		% within Q18 C4 Do the new farming skills you gain from the media and practice help to increase the harvest and profit?	52.6%	47.4%	100.0%
		% within Q1 Sex of the respondent	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.620^a	1	.032
Continuity Correction ^b	4.185	1	.041
Likelihood Ratio	4.637	1	.031
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 75.36.

b. Computed only for a 2x2 table

In this scenario, the null hypothesis is rejected, and the alternative hypothesis is accepted. This conclusion is drawn based on a p-value of 4.620^a and an Asymp. Sig of .032, both of which are smaller than the significance level of .05. Thus, it can be inferred that the adoption of new farming practices through media channels indeed leads to increased agricultural productivity and income, including profits.

Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?* Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q19 C5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	No	Count	63	61	124
		% within Q19 C5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	50.8%	49.2%	100.0%
		% within Q1 Sex of the respondent	31.2%	33.5%	32.3%
	Rarely	Count	84	62	146

		% within Q19 C5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	57.5%	42.5%	100.0%
		% within Q1 Sex of the respondent	41.6%	34.1%	38.0%
	Yes	Count	55	59	114
		% within Q19 C5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	48.2%	51.8%	100.0%
		% within Q1 Sex of the respondent	27.2%	32.4%	29.7%
Total		Count	202	182	384

	% within Q19 C5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.453 ^a	2	.293
Likelihood Ratio	2.458	2	.293
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 54.03.

Based on the statistical analysis provided, the null hypothesis is accepted and deemed significant. This suggests that farmers do not receive full support and follow-up actions from agricultural offices at various levels to implement the methods introduced through media channels into practice. This conclusion is supported by a p-value of 2.453^a and an Asymp. Sig of .293, both of which exceed the significance level of .05. Therefore, there is no significant association between the support and follow-up actions from agricultural offices and the implementation of media-introduced methods by farmers.

4.3c: Objective 3: To find out the communication strategies being used by various agencies to promote agriculture

Do you know any NGO out of the government promote agriculture development? *

Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q20 D1 Do you know any NGO out of the government promote agriculture development?	Maybe	Count	70	49	119
		% within Q20 D1 Do you know any NGO out of the government promote agriculture development?	58.8%	41.2%	100.0%
		% within Q1 Sex of the respondent	34.7%	26.9%	31.0%
	No	Count	38	47	85
		% within Q20 D1 Do you know any NGO out of the government promote agriculture development?	44.7%	55.3%	100.0%
		% within Q1 Sex of the respondent	18.8%	25.8%	22.1%
	Yes	Count	94	86	180
		% within Q20 D1 Do you know any NGO out of the government promote agriculture development?	52.2%	47.8%	100.0%
		% within Q1 Sex of the respondent	46.5%	47.3%	46.9%
Total		Count	202	182	384
		% within Q20 D1 Do you know any NGO out of the government promote agriculture development?	52.6%	47.4%	100.0%
		% within Q1 Sex of the respondent	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.984 ^a	2	.136
Likelihood Ratio	3.994	2	.136
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5.

The minimum expected count is 40.29.

Based on the provided statistical analysis, the null hypothesis is accepted and considered significant. This indicates that there is a difference in awareness of non-governmental organizations (NGOs) promoting agricultural development between male and female farmers. The data suggests that most female farmers are aware of such NGOs, while many male farmers are not. Additionally, some respondents expressed uncertainty about whether certain organizations were NGOs or government entities. Therefore, there is a need for collaboration between NGOs and the government to raise awareness among both sexes in rural areas about the NGOs involved in agricultural development initiatives.

How did you know that organization which promotes agriculture development? *
Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q21 D2 How did you know that organization which promotes agriculture development?		Count	0	1	1
		% within Q21 D2 How did you know that organization which promotes agriculture development?	0.0%	100.0%	100.0%
		% within Q1 Sex of the respondent	0.0%	0.5%	0.3%
	They came to the village physically	Count	66	61	127
		% within Q21 D2 How did you know that organization which promotes agriculture development?	52.0%	48.0%	100.0%
		% within Q1 Sex of the respondent	32.7%	33.5%	33.1%
	Through	Count	47	30	77

	Extension/Agriculture Officers	% within Q21 D2 How did you know that organization which promotes agriculture development?	61.0%	39.0%	100.0%
		% within Q1 Sex of the respondent	23.3%	16.5%	20.1%
	Through Leaders	Count	19	12	31
		% within Q21 D2 How did you know that organization which promotes agriculture development?	61.3%	38.7%	100.0%
		% within Q1 Sex of the respondent	9.4%	6.6%	8.1%
	Through Media	Count	18	31	49
		% within Q21 D2 How did you know that organization which promotes agriculture development?	36.7%	63.3%	100.0%
		% within Q1 Sex of the respondent	8.9%	17.0%	12.8%
	Through other people	Count	52	47	99
		% within Q21 D2 How did you know that organization which promotes agriculture development?	52.5%	47.5%	100.0%
		% within Q1 Sex of the respondent	25.7%	25.8%	25.8%
	Total		Count	202	182

	% within Q21 D2 How did you know that organization which promotes agriculture development?	52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.216 ^a	5	.101
Likelihood Ratio	9.663	5	.085
N of Valid Cases	384		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is .47.

Based on the statistical analysis provided, the null hypothesis is accepted and considered significant. This suggests that smallholder farmers become aware of organizations promoting agricultural development through various means, including physical visits by NGO representatives to villages for self-introduction, information sharing from other individuals, and interactions with agriculture officers during extension activities. The data, with a p-value of 9.126^a and an Asymp. Sig of .101, indicates that there is no significant difference in awareness among farmers regarding the methods used by organizations to promote agricultural development.

Methods used by them/NGOs to promote agriculture development/Through Agriculture Programmes on the media * Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q22_1 D3.1 Which	No	Count	161	152	313

methods used by them/NGOs to promote agriculture development/Through Agriculture Programmes on the media	(0)	% within Q22_1 D3.1 Which methods used by them/NGOs to promote agriculture development/Through Agriculture Programmes on the media	51.4%	48.6%	100.0%
		% within Q1 Sex of the respondent	79.7%	83.5%	81.5%
	Yes (1)	Count	41	30	71
		% within Q22_1 D3.1 Which methods used by them/NGOs to promote agriculture development/Through Agriculture Programmes on the media	57.7%	42.3%	100.0%
		% within Q1 Sex of the respondent	20.3%	16.5%	18.5%
Total	Count		202	182	384
	% within Q22_1 D3.1 Which methods used by them/NGOs to promote agriculture development/Through Agriculture Programmes on the media		52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent		100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.924 ^a	1	.336
Continuity Correction ^b	.688	1	.407
Likelihood Ratio	.928	1	.335
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 33.65.

b. Computed only for a 2x2 table

Based on the statistical analysis provided, the null hypothesis is accepted and deemed significant. This suggests that smallholder farmers perceive that NGOs do extensively utilize agricultural programs on the media to promote agricultural development. The p-value of .336, which is greater than the significance level of .05, indicates that there is no significant association between the methods used by NGOs and the promotion of agricultural development through media programs with the gender of the respondents. Therefore, it can be inferred that NGOs may prioritize the use of agricultural programs on the media for promoting agricultural development, based on the perceptions of smallholder farmers.

Methods used by them/NGOs to promote agriculture development/Distribution of Brochures and notes * Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q22_2 D3.2 Which methods used by them/NGOs to promote agriculture development/Distribution of Brochures and notes	No (0)	Count	188	164	352
		% within Q22_2 D3.2 Which methods used by them/NGOs to promote agriculture development/Distribution of Brochures and notes	53.4%	46.6%	100.0%
		% within Q1 Sex of the respondent	93.1%	90.1%	91.7%
	Yes (1)	Count	14	18	32
		% within Q22_2 D3.2 Which methods used by them/NGOs to promote agriculture development/Distribution of Brochures and notes	43.8%	56.3%	100.0%
		% within Q1 Sex of the respondent	6.9%	9.9%	8.3%
Total		Count	202	182	384
		% within Q22_2 D3.2 Which methods used by them/NGOs to promote agriculture development/Distribution of Brochures and notes	52.6%	47.4%	100.0%

	% within Q1 Sex of the respondent	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.098 ^a	1	.295
Continuity Correction ^b	.744	1	.388
Likelihood Ratio	1.097	1	.295
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 15.17.

b. Computed only for a 2x2 table

Based on the statistical analysis provided, the null hypothesis is accepted and considered significant. This suggests that smallholder farmers perceive that NGOs do extensively utilize the distribution of brochures and notes to promote agriculture development. The p-value of 1.098^a and Asymp. Sig of .295 are both greater than the significance level of .05. Therefore, there is no significant association between the methods used by NGOs and the distribution of brochures and notes for promoting agriculture development with the gender of the respondents, based on the perceptions of smallholder farmers.

Methods used by them/NGOs to promote agriculture development/Through Seminars * Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q22_3 D3.3 Which methods used by them/NGOs to promote agriculture development/Through Seminars	No (0)	Count	71	74	145
		% within Q22_3 D3.3 Which methods used by them/NGOs to promote agriculture development/Through Seminars	49.0%	51.0%	100.0%
		% within Q1 Sex of the respondent	35.1%	40.7%	37.8%
	Yes	Count	131	108	239

	(1)	% within Q22_3 D3.3 Which methods used by them/NGOs to promote agriculture development/Through Seminars	54.8%	45.2%	100.0%
		% within Q1 Sex of the respondent	64.9%	59.3%	62.2%
Total		Count	202	182	384
		% within Q22_3 D3.3 Which methods used by them/NGOs to promote agriculture development/Through Seminars	52.6%	47.4%	100.0%
		% within Q1 Sex of the respondent	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square	1.237 ^a	1	.266
Continuity Correction ^b	1.014	1	.314
Likelihood Ratio	1.237	1	.266
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 68.72.

b. Computed only for a 2x2 table

Based on the statistical analysis provided, the null hypothesis is accepted and considered significant. This suggests that smallholder farmers perceive that NGOs effectively utilize seminars as a method to promote agricultural development. The p-value of .266 is greater than the significance level of .05. Therefore, there is no significant association between the methods used by NGOs and the effectiveness of seminars in promoting agriculture development with the gender of smallholder farmers, based on the perceptions of smallholder farmers.

Methods used by them/NGOs to promote agriculture development/Through training * Q1 Sex of the respondent

	Q1 Sex of the respondent	Total

			Female	Male	
Q22_4 D3.4 Which methods used by them/NGOs to promote agriculture development/Through training	No (0)	Count	108	78	186
		% within Q22_4 D3.4 Which methods used by them/NGOs to promote agriculture development/Through training	58.1%	41.9%	100.0%
		% within Q1 Sex of the respondent	53.5%	42.9%	48.4%
	Yes (1)	Count	94	104	198
		% within Q22_4 D3.4 Which methods used by them/NGOs to promote agriculture development/Through training	47.5%	52.5%	100.0%
		% within Q1 Sex of the respondent	46.5%	57.1%	51.6%
Total		Count	202	182	384
		% within Q22_4 D3.4 Which methods used by them/NGOs to promote agriculture development/Through training	52.6%	47.4%	100.0%
		% within Q1 Sex of the respondent	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.314^a	1	.038
Continuity Correction ^b	3.900	1	.048
Likelihood Ratio	4.323	1	.038
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 88.16.

b. Computed only for a 2x2 table

Based on the statistical analysis provided, the null hypothesis is rejected as the p-value of 4.314^a and Asymp. Sig. of .038 are both smaller than the significance level of .05. This indicates a significant association between the methods used by NGOs and the provision

of training to farmers for promoting agriculture development with the gender of farmers. The data suggests that while female smallholder farmers are less likely to perceive training as a method used by NGOs to promote agriculture development, the majority of male farmers acknowledge its effectiveness. Therefore, it can be inferred that NGOs do utilize training programs to promote agriculture development, but there may be differences in perception among male and female farmers.

Do they/NGOs offer any support for improving agriculture? * Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q23 D4 Do they/NGOs offer any support for improving agriculture?	No	Count	19	29	48
		% within Q23 D4 Do they/NGOs offer any support for improving agriculture?	39.6%	60.4%	100.0%
		% within Q1 Sex of the respondent	9.4%	15.9%	12.5%
	Rarely	Count	69	48	117
		% within Q23 D4 Do they/NGOs offer any support for improving agriculture?	59.0%	41.0%	100.0%
		% within Q1 Sex of the respondent	34.2%	26.4%	30.5%
	Yes	Count	114	105	219
		% within Q23 D4 Do they/NGOs offer any support for improving agriculture?	52.1%	47.9%	100.0%
		% within Q1 Sex of the respondent	56.4%	57.7%	57.0%
Total		Count	202	182	384
		% within Q23 D4 Do they/NGOs offer any support for improving agriculture?	52.6%	47.4%	100.0%
		% within Q1 Sex of the respondent	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.195 ^a	2	.074
Likelihood Ratio	5.216	2	.074
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 22.75.

Based on the statistical analysis provided, the null hypothesis is accepted and considered significant. This indicates that farmers receive support from non-governmental organizations (NGOs) involved in agriculture development in Tanzania. The p-value of 5.195^a and Asymp. Sig of .074 are both greater than the significance level of .05. Therefore, there is no significant association between the support provided by NGOs and agriculture development with the gender of farmers, suggesting that NGOs are indeed offering support to farmers for improving agriculture in Tanzania without discriminating their gender.

Which support is provided by the NGOs for improving agriculture? * Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q24 D5 Which support is provided by the NGOs for improving agriculture?	Cash loan	Count	3	5	8
		% within Q24 D5 Which support is provided by the NGOs for improving agriculture?	37.5%	62.5%	100.0%
		% within Q1 Sex of the respondent	1.5%	2.7%	2.1%
	Equipments/Materials loan	Count	50	32	82
		% within Q24 D5 Which support is provided by the NGOs for improving agriculture?	61.0%	39.0%	100.0%

		% within Q1 Sex of the respondent	24.8%	17.6%	21.4%
		Count	63	64	127
		% within Q24 D5 Which support is provided by the NGOs for improving agriculture?	49.6%	50.4%	100.0%
		% within Q1 Sex of the respondent	31.2%	35.2%	33.1%
	Providing seeds	Count	86	81	167
		% within Q24 D5 Which support is provided by the NGOs for improving agriculture?	51.5%	48.5%	100.0%
		% within Q1 Sex of the respondent	42.6%	44.5%	43.5%
		Count	202	182	384
Total		% within Q24 D5 Which support is provided by the NGOs for improving agriculture?	52.6%	47.4%	100.0%
		% within Q1 Sex of the respondent	100.0%	100.0%	100.0%
		Count	202	182	384

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.577 ^a	3	.311
Likelihood Ratio	3.604	3	.307
N of Valid Cases	384		

a. 2 cells (25.0%) have expected count less than 5.

The minimum expected count is 3.79.

Based on the statistical analysis provided, the null hypothesis is accepted and considered significant. This suggests that small-scale farmers receive support from non-governmental organizations (NGOs) involved in agricultural development primarily in the form of seeds and manure. The p-value of 3.577^a and Asymp. Sig of .311 are both greater than the significance level of .05. Therefore, there is no significant association between the support provided by NGOs and the provision of seeds and manure to small-scale farmers, indicating that these are indeed the most common forms of support received by farmers from NGOs involved in agricultural development.

Do these supports help you in improving the agriculture? * Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q25 D6 Do these supports help you in improving the agriculture?	Agree	Count	108	102	210
		% within Q25 D6 Do these supports help you in improving the agriculture?	51.4%	48.6%	100.0%
		% within Q1 Sex of the respondent	53.5%	56.0%	54.7%
	Disagree	Count	18	20	38
		% within Q25 D6 Do these supports help you in improving the agriculture?	47.4%	52.6%	100.0%
		% within Q1 Sex of the respondent	8.9%	11.0%	9.9%
	Neutral	Count	61	52	113
		% within Q25 D6 Do these supports help you in improving the agriculture?	54.0%	46.0%	100.0%
		% within Q1 Sex of the respondent	30.2%	28.6%	29.4%
	Strong agree	Count	7	4	11

		% within Q25 D6 Do these supports help you in improving the agriculture?	63.6%	36.4%	100.0%
		% within Q1 Sex of the respondent	3.5%	2.2%	2.9%
	Strongly disagree	Count	8	4	12
		% within Q25 D6 Do these supports help you in improving the agriculture?	66.7%	33.3%	100.0%
		% within Q1 Sex of the respondent	4.0%	2.2%	3.1%
Total	Count		202	182	384
	% within Q25 D6 Do these supports help you in improving the agriculture?		52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent		100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square	2.109 ^a	4	.716
Likelihood Ratio	2.140	4	.710
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.21.

Based on the statistical analysis provided, the null hypothesis is accepted. This suggests that most farmers believe that the support they receive from non-governmental organizations (NGOs) helps them improve agriculture. The p-value of 2.109^a and Asymp. Sig of .716 are both greater than the significance level of .05. Therefore, there is no significant association between the support provided by NGOs and its effectiveness in improving agriculture to small scale farmers, as perceived by the farmers.

4.3d: Objective 4: To examine the role of media in the development of the rural areas in Tanzania.

Media brings the understanding knowledge concern rural development * Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q26 E1 Media brings the understanding knowledge concern rural development	Agree	Count	98	90	188
		% within Q26 E1 Media brings the understanding knowledge concern rural development	52.1%	47.9%	100.0%
		% within Q1 Sex of the respondent	48.5%	49.5%	49.0%
	Disagree	Count	12	9	21
		% within Q26 E1 Media brings the understanding knowledge concern rural development	57.1%	42.9%	100.0%
		% within Q1 Sex of the respondent	5.9%	4.9%	5.5%
	Neutral	Count	79	74	153
		% within Q26 E1 Media brings the understanding knowledge concern rural development	51.6%	48.4%	100.0%
		% within Q1 Sex of the respondent	39.1%	40.7%	39.8%
	Strong agree	Count	9	4	13
		% within Q26 E1 Media brings the understanding knowledge concern rural development	69.2%	30.8%	100.0%
		% within Q1 Sex of the respondent	4.5%	2.2%	3.4%
	Strong	Count	4	5	9

	disagree	% within Q26 E1 Media brings the understanding knowledge concern rural development	44.4%	55.6%	100.0%
		% within Q1 Sex of the respondent	2.0%	2.7%	2.3%
Total	Count		202	182	384
	% within Q26 E1 Media brings the understanding knowledge concern rural development		52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent		100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square	1.930 ^a	4	.749
Likelihood Ratio	1.977	4	.740
N of Valid Cases	384		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 4.27.

Based on the statistical analysis provided, the null hypothesis is accepted, suggesting that the media effectively presents awareness about rural development to rural areas. The p-value of 1.930^a and Asymp. Sig of .749 are both greater than the significance level of .05. Therefore, there is no significant association between media presentation and awareness about rural development with the gender of the correspondents, indicating that most farmers agree that the media brings understanding and knowledge concerning rural development.

Media presents the information about the government/ NGOs policies regarding rural development * Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q27 E2 Media	Agree	Count	65	72	137

presents the information about the government/ NGOs policies regarding rural development		% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	47.4%	52.6%	100.0%
		% within Q1 Sex of the respondent	32.2%	39.6%	35.7%
	Disagree	Count	15	6	21
		% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	71.4%	28.6%	100.0%
		% within Q1 Sex of the respondent	7.4%	3.3%	5.5%
	Neutral	Count	117	97	214
		% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	54.7%	45.3%	100.0%
		% within Q1 Sex of the respondent	57.9%	53.3%	55.7%
	Strong agree	Count	2	6	8
		% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	25.0%	75.0%	100.0%
		% within Q1 Sex of the respondent	1.0%	3.3%	2.1%
	Strong	Count	3	1	4

	disagree	% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	75.0%	25.0%	100.0%
		% within Q1 Sex of the respondent	1.5%	0.5%	1.0%
Total		Count	202	182	384
		% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	52.6%	47.4%	100.0%
		% within Q1 Sex of the respondent	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.064 ^a	4	.089
Likelihood Ratio	8.312	4	.081
N of Valid Cases	384		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 1.90.

Based on the statistical analysis provided, the null hypothesis is accepted, indicating that media may not effectively present information about government and NGOs policies regarding rural development to female farmers, with a majority of male farmers in agreement. This lack of awareness could be attributed to farmers' limited understanding of rural development policies due to the time for the media program about rural development, women are busy with other house chore, so they miss it. The Asymp. Sig of .089 is greater than the significance level of .05, suggesting no significant association between media presentation and awareness of government and NGOs policies concerning rural development with the genders farmers. Therefore, there is room for improvement in effectively disseminating policy-related information through media channels to enhance farmers' understanding and awareness.

Media presents the information about the development budget for rural areas * Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q28 E3 Media presents the information about the development budget for rural areas	Agree	Count	54	68	122
		% within Q28 E3 Media presents the information about the development budget for rural areas	44.3%	55.7%	100.0%
		% within Q1 Sex of the respondent	26.7%	37.4%	31.8%
	Disagree	Count	18	13	31
		% within Q28 E3 Media presents the information about the development budget for rural areas	58.1%	41.9%	100.0%
		% within Q1 Sex of the respondent	8.9%	7.1%	8.1%
	Neutral	Count	126	97	223
		% within Q28 E3 Media presents the information about the development budget for rural areas	56.5%	43.5%	100.0%
		% within Q1 Sex of the respondent	62.4%	53.3%	58.1%
	Strong agree	Count	1	3	4
		% within Q28 E3 Media presents the information about the development budget for rural areas	25.0%	75.0%	100.0%
		% within Q1 Sex of the respondent	0.5%	1.6%	1.0%
	Strong	Count	3	1	4

	disagree	% within Q28 E3 Media presents the information about the development budget for rural areas	75.0%	25.0%	100.0%
		% within Q1 Sex of the respondent	1.5%	0.5%	1.0%
Total	Count		202	182	384
	% within Q28 E3 Media presents the information about the development budget for rural areas		52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent		100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square	7.162 ^a	4	.128
Likelihood Ratio	7.253	4	.123
N of Valid Cases	384		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 1.90.

Based on the statistical analysis provided, the null hypothesis is accepted, suggesting that media may not effectively present information about the development budget for rural areas to female small-scale farmers, despite the majority of male farmers agreeing otherwise. The p-value of 7.162^a and Asymp. Sig of .128 are both greater than the significance level of .05, indicating no significant association between media presentation and awareness of the development budget for rural areas with the gender of the small scale farmers. Therefore, there may be a need to enhance efforts to ensure equitable access to information about development budgets through media channels, especially among female small-scale farmers.

Media works well with the participatory approaches/ communication and developmental opportunities

*** Q1 Sex of the respondent**

			Q1 Sex of the respondent		Total
			Female	Male	
Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	Agree	Count	72	89	161
		% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	44.7%	55.3%	100.0%
		% within Q1 Sex of the respondent	35.6%	48.9%	41.9%
	Disagree	Count	11	10	21
		% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	52.4%	47.6%	100.0%
		% within Q1 Sex of the respondent	5.4%	5.5%	5.5%
	Neutral	Count	115	79	194
		% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	59.3%	40.7%	100.0%
		% within Q1 Sex of the respondent	56.9%	43.4%	50.5%
	Strong agree	Count	2	3	5

		% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	40.0%	60.0%	100.0%
		% within Q1 Sex of the respondent	1.0%	1.6%	1.3%
	Strong disagree	Count	2	1	3
		% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	66.7%	33.3%	100.0%
		% within Q1 Sex of the respondent	1.0%	0.5%	0.8%
		Count	202	182	384
Total					

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.037 ^a	4	.090
Likelihood Ratio	8.064	4	.089
N of Valid Cases	384		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 1.42.

Based on the statistical analysis provided, the null hypothesis is accepted, indicating that most female smallholder farmers may not be aware, while the majority of male farmers believe that media effectively engages with participatory approaches and developmental opportunities. The p-value of 8.037^a and Asymp. Sig of .090 are both greater than the

significance level of .05, suggesting no significant association between gender and perception of media effectiveness in participatory approaches and developmental opportunities. Therefore, there may be a need to address gender disparities in awareness and perception of media engagement in participatory approaches to ensure equitable access to developmental opportunities among smallholder farmers.

Media take the rural development projects to the doorsteps of the people * Q1 Sex of the respondent

			Q1 Sex of the respondent		Total
			Female	Male	
Q30 E5 Media take the rural development projects to the doorsteps of the people	Agree	Count	65	68	133
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	48.9%	51.1%	100.0%
		% within Q1 Sex of the respondent	32.2%	37.4%	34.6%
	Disagree	Count	21	12	33
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	63.6%	36.4%	100.0%
		% within Q1 Sex of the respondent	10.4%	6.6%	8.6%
	Neutral	Count	112	95	207
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	54.1%	45.9%	100.0%
		% within Q1 Sex of the respondent	55.4%	52.2%	53.9%
	Strong agree	Count	2	5	7

		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	28.6%	71.4%	100.0%
		% within Q1 Sex of the respondent	1.0%	2.7%	1.8%
	Strong disagree	Count	2	2	4
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	50.0%	50.0%	100.0%
		% within Q1 Sex of the respondent	1.0%	1.1%	1.0%
Total	Count		202	182	384
	% within Q30 E5 Media take the rural development projects to the doorsteps of the people		52.6%	47.4%	100.0%
	% within Q1 Sex of the respondent		100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.174 ^a	4	.383
Likelihood Ratio	4.237	4	.375
N of Valid Cases	384		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 1.90.

Based on the statistical analysis provided, the null hypothesis is accepted, indicating that most female smallholder farmers may not be aware, while the majority of male farmers believe that media effectively bring rural development projects to the doorsteps of the people. The p-value of 4.174^a and Asymp. Sig of .383 are both greater than the significance level of .05, suggesting no significant association between gender and perception of media engagement in bringing rural development projects to the

community level. Therefore, there may be a need to address gender disparities in awareness of media efforts to ensure equitable access to rural development initiatives among smallholder farmers.

4.4a: Objective 1: To a study the role of media in inculcating, adaptation of innovation and barriers in agriculture among small holder famers of Tanzania.

Source of mass media used by farmers in accessing agricultural information * Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
1 Source of mass media used by farmers in accessing agricultural information	Newspaper	Count	0	1	1	1	0	0	3
		% within 1 Source of mass media used by farmers in accessing agricultural information	0.0%	33.3%	33.3%	33.3%	0.0%	0.0%	100.0%
		% within Q2 Age of the respondent	0.0%	0.9%	1.0%	1.2%	0.0%	0.0%	0.8%
	Radio	Count	6	87	78	66	39	29	305
		% within 1 Source of mass media used by farmers in accessing agricultural information	2.0%	28.5%	25.6%	21.6%	12.8%	9.5%	100.0%
		% within Q2 Age of the respondent	85.7%	79.1%	77.2%	81.5%	75.0%	87.9%	79.4%
	Television	Count	1	22	21	14	13	4	75
		% within 1 Source of mass media used by farmers in accessing agricultural information	3.3%	7.2%	6.7%	4.4%	4.3%	1.3%	22.7%

		% within 1 Source of mass media used by farmers in accessing agricultural information	1.3%	29.3%	28.0%	18.7%	17.3%	5.3%	100.0%
		% within Q2 Age of the respondent	14.3%	20.0%	20.8%	17.3%	25.0%	12.1%	19.5%
	What's App	Count	0	0	1	0	0	0	1
		% within 1 Source of mass media used by farmers in accessing agricultural information	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%
		% within Q2 Age of the respondent	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%	0.3%
		Count	7	110	101	81	52	33	384
Total		% within 1 Source of mass media used by farmers in accessing agricultural information	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
		% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.506 ^a	15	.970

Likelihood Ratio	7.146	15	.953
N of Valid Cases	384		

a. 13 cells (54.2%) have expected count less than 5.

The minimum expected count is .02.

The table above illustrates a notable trend: many young individuals, particularly those between the ages of 21 to 50, prefer radio as their primary source of agricultural knowledge and information. This inclination towards radio as a preferred medium for accessing agricultural insights is apparent among smallholder farmers. The chi-square analysis further reinforces this observation, with a p-value of 6.506^a and Asymp. Sig of .970, both exceeding the critical value of .05. Consequently, the null hypothesis, which asserts that radio is the primary mass media outlet utilized by farmers for accessing agricultural information, is deemed significant and accepted. Following radio, television emerges as the subsequent favored medium for agricultural information dissemination among farmers.

The media which broadcasts the more innovative farming methods.* Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
2 The media which broadcasts the more innovative farming methods.	Newspaper	Count	1	1	1	1	0	0	4
		% within 2 The media which broadcasts the more innovative farming methods.	25.0%	25.0%	25.0%	25.0%	0.0%	0.0%	100.0%
		% within Q2 Age of the respondent	14.3%	0.9%	1.0%	1.2%	0.0%	0.0%	1.0%
	Radio	Count	5	85	74	67	39	29	299

		% within 2 The media which broadcasts the more innovative farming methods.	1.7%	28.4%	24.7%	22.4%	13.0%	9.7%	100.0%	
		% within Q2 Age of the respondent	71.4%	77.3%	73.3%	82.7%	75.0%	87.9%	77.9%	
	Televison	Count	1	24	25	13	13	4	80	
		% within 2 The media which broadcasts the more innovative farming methods.	1.3%	30.0%	31.3%	16.3%	16.3%	5.0%	100.0%	
		% within Q2Age of the respondent	14.3%	21.8%	24.8%	16.0%	25.0%	12.1%	20.8%	
	What’s App	Count	0	0	1	0	0	0	1	
		% within 2 The media which broadcasts the more innovative farming methods.	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	
		% within Q2 Age of the respondent	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%	0.3%	
	Total		Count	7	110	101	81	52	33	384

	% within 2 The media which broadcasts the more innovative farming methods.	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
	% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.031 ^a	15	.171
Likelihood Ratio	12.606	15	.633
N of Valid Cases	384		

a. 13 cells (54.2%) have expected count less than 5. The minimum expected count is .02.

Based on the results above, it is evident that radio is perceived as the primary media platform for broadcasting innovative farming methods, particularly among individuals aged 21 to 50 years old. The statistical analysis, with a p-value of 20.031^a and Asymp. Sig of .171, indicates that this preference for radio as a source of innovative farming methods is significant. As the p-value exceeds the critical value of .05, the null hypothesis, which suggests that radio is the main broadcaster of innovative farming techniques, is accepted. Thus, it can be concluded that radio plays a crucial role in disseminating innovative agricultural practices among farmers within this age group.

What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?* Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
3 What is	Not	Count	1	11	8	5	5	5	35

an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	relevant	% within 3 What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	2.9%	31.4%	22.9%	14.3%	14.3%	14.3%	100.0%
		% within Q2 Age of the respondent	14.3%	10.0%	7.9%	6.2%	9.6%	15.2%	9.1%
	Relevant	Count	3	83	79	62	38	26	291
		% within 3 What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	1.0%	28.5%	27.1%	21.3%	13.1%	8.9%	100.0%
		% within Q2 Age of the respondent	42.9%	75.5%	78.2%	76.5%	73.1%	78.8%	75.8%
	Very	Count	3	16	14	14	9	2	58

	relevant	% within 3 What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	5.2%	27.6%	24.1%	24.1%	15.5%	3.4%	100.0%
		% within Q2 Age of the respondent	42.9%	14.5%	13.9%	17.3%	17.3%	6.1%	15.1%
Total	Count		7	110	101	81	52	33	384
		% within 3 What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
		% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.643 ^a	10	.472
Likelihood Ratio	8.998	10	.532
N of Valid Cases	384		

a. 5 cells (27.8%) have expected count less than

5. The minimum expected count is .64.

The table indicates that the null hypothesis, regarding the frequency distribution of the relevance of agricultural knowledge, is accepted. This is evidenced by a p-value of 9.643^a and an Asymp.sig of .472, both exceeding the significance level of .05. The acceptance of the null hypothesis can be attributed to the majority of small-scale farmers, particularly those aged between 21 to 50 years old, who acknowledge the relevance of the agricultural knowledge they receive. They perceive this knowledge as directly applicable to their farming practices and experiences.

Do these media sources meet the farmers' needs?* Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
4 Do these media sources meet the farmers' needs?	No	Count	5	28	21	12	13	9	88
		% within 4 Do these media sources meet the farmers' needs?	5.7%	31.8%	23.9%	13.6%	14.8%	10.2%	100.0%
		% within Q2 Age of the respondent	71.4%	25.5%	20.8%	14.8%	25.0%	27.3%	22.9%
	Yes	Count	2	82	80	69	39	24	296
		% within 4 Do these media sources meet the farmers' needs?	0.7%	27.7%	27.0%	23.3%	13.2%	8.1%	100.0%
		% within Q2 Age of the respondent	28.6%	74.5%	79.2%	85.2%	75.0%	72.7%	77.1%
Total		Count	7	110	101	81	52	33	384

	% within 4 Do these media sources meet the farmers' needs?	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
	% within Q2Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.477^a	5	.019
Likelihood Ratio	11.841	5	.037
N of Valid Cases	384		

a. 1 cells (8.3%) have expected count less than 5. The minimum expected count is 1.60.

A significant number of smallholder farmers, aged between 21 to 50 years old, affirm that mass media sources adequately fulfill their information needs. Consequently, the alternate hypothesis affirming this agreement is accepted, while the null hypothesis is rejected. This decision is supported by a p-value of 13.477^a and an Asymp. Sig. of .02, both lower than the critical threshold of .05. Thus, the statistical analysis confirms that media sources effectively cater to the informational requirements of farmers within this age group.

The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?* Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
5 The	No	Count	2	6	15	7	4	5	39

agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?		% within 5 The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?	5.1%	15.4%	38.5%	17.9%	10.3%	12.8%	100.0%
		% within Q2 Age of the respondent	28.6%	5.5%	14.9%	8.6%	7.7%	15.2%	10.2%
	Yes	Count	5	104	86	74	48	28	345
		% within 5 The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?	1.4%	30.1%	24.9%	21.4%	13.9%	8.1%	100.0%
		% within Q2 Age of the respondent	71.4%	94.5%	85.1%	91.4%	92.3%	84.8%	89.8%
Total	Count		7	110	101	81	52	33	384
	% within 5 The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?		1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
	% within Q2 Age of the respondent		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.159 ^a	5	.103
Likelihood Ratio	8.546	5	.129
N of Valid Cases	384		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is .71.

Smallholder farmers between the ages of 21 to 50 have expressed agreement with the null hypothesis, indicating their belief in the potential of farm/agriculture communication through media to enhance agricultural production and facilitate the adoption of new farming practices. This acceptance is statistically significant, supported by a p-value of 9.159^a and an Asymp. Sig. of .103, both surpassing the critical threshold of .05. Thus, it is evident that farmers within this age range perceive media-based agricultural communication as beneficial for improving agricultural outcomes and embracing innovative farming techniques.

The challenge which farmers are facing during accessing the agricultural information from the mass media. * Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
6 The challenge which farmers are facing during accessing the agricultural information from the mass media	Highly cost of purchasing and maintain media source	Count	5	30	38	30	23	17	143
		% within 6 The challenge which farmers are facing during accessing the agricultural information from the mass media	3.5%	21.0%	26.6%	21.0%	16.1%	11.9%	100.0%

		% within Q2 Age of the respondent	71.4%	27.3%	37.6%	37.0%	44.2%	51.5%	37.2%
	Inability to write and read	Count	0	8	6	2	3	8	27
		% within 6 The challenge which farmers are facing during accessing the agricultural information from the mass media	0.0%	29.6%	22.2%	7.4%	11.1%	29.6%	100.0%
		% within Q2 Age of the respondent	0.0%	7.3%	5.9%	2.5%	5.8%	24.2%	7.0%
	Inadequate feedback mechanism	Count	1	26	23	22	6	3	81
		% within 6 The challenge which farmers are facing during accessing the agricultural information from the mass media	1.2%	32.1%	28.4%	27.2%	7.4%	3.7%	100.0%
		% within Q2 Age of the respondent	14.3%	23.6%	22.8%	27.2%	11.5%	9.1%	21.1%
	Poor	Count	0	4	4	1	0	0	9

	internet Connectivity	% within 6 The challenge which farmers are facing during accessing the agricultural information from the mass media	0.0%	44.4%	44.4%	11.1%	0.0%	0.0%	100.0%
		% within Q2 Age of the respondent	0.0%	3.6%	4.0%	1.2%	0.0%	0.0%	2.3%
	Poor power supply	Count	0	6	6	2	7	1	22
		% within 6 The challenge which farmers are facing during accessing the agricultural information from the mass media	0.0%	27.3%	27.3%	9.1%	31.8%	4.5%	100.0%
		% within Q2 Age of the respondent	0.0%	5.5%	5.9%	2.5%	13.5%	3.0%	5.7%
	Poor signal	Count	1	36	24	24	13	4	102

		% within 6 The challenge which farmers are facing during accessing the agricultural information from the mass media	1.0%	35.3%	23.5%	23.5%	12.7%	3.9%	100.0%
		% within Q2 Age of the respondent	14.3%	32.7%	23.8%	29.6%	25.0%	12.1%	26.6%
Total		Count	7	110	101	81	52	33	384
		% within 6 The challenge which farmers are facing during accessing the agricultural information from the mass media	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
		% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	48.718^a	25	.003
Likelihood Ratio	47.092	25	.005
N of Valid Cases	384		

a. 16 cells (44.4%) have expected count less than 5. The minimum expected count is .16.

A significant portion of smallholder farmers aged 21 to 60 identified the high cost of purchasing and maintaining media sources as a primary challenge in accessing agricultural information through mass media. Additionally, many farmers aged 21 to 50 cited poor signal reception as another major hurdle. This divergence in responses among different age groups leads to the rejection of the null hypothesis, as the Asymp. Sig. of .003 is lower than the critical threshold of .05, signifying statistical significance. Consequently, it is apparent that these challenges vary across age demographics, highlighting the need for tailored solutions to address the specific concerns of different farmer cohorts.

4.4b: Objective 2: To explore the changes in agriculture practices in rural areas of Tanzania through media.

Do you get the better harvest after applying the farming practices from the media?*
Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
Do you get the better harvest after applying the farming practices from the media?	No	Count	4	39	34	14	15	12	118
		% within Do you get the better harvest after applying the farming practices from the media?	3.4%	33.1%	28.8%	11.9%	12.7%	10.2%	100.0%
		% within Q2 Age of the respondent	57.1%	35.5%	33.7%	17.3%	28.8%	36.4%	30.7%
	Yes	Count	3	71	67	67	37	21	266

		% within Do you get the better harvest after applying the farming practices from the media?	1.1%	26.7%	25.2%	25.2%	13.9%	7.9%	100.0%
		% within Q2 Age of the respondent	42.9%	64.5%	66.3%	82.7%	71.2%	63.6%	69.3%
Total		Count	7	110	101	81	52	33	384
		% within Do you get the better harvest after applying the farming practices from the media?	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
		% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.314^a	5	.045
Likelihood Ratio	11.831	5	.037
N of Valid Cases	384		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 2.15.

The null hypothesis, suggesting that smallholder farmers achieve better yields by implementing farming practices learned through media, is deemed significant and accepted. This conclusion is supported by a p-value of 11.314^a and an Asymp. Sig. of .05, which equals the critical value of .05. When the calculated value is greater than or equal to the critical value, it indicates that the null hypothesis holds true and is statistically

significant. Moreover, the majority of smallholder farmers who endorsed this hypothesis fall within the age range of 21 to 60 years old, further reinforcing its validity across a broad demographic spectrum.

Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?* Q2Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	No	Count	1	24	22	17	14	10	88
		% within 2							
		Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	1.1%	27.3%	25.0%	19.3%	15.9%	11.4%	100.0%
		% within Q2 Age of the respondent	14.3%	21.8%	21.8%	21.0%	26.9%	30.3%	22.9%
	Yes	Count	6	86	79	64	38	23	296
		% within 2							
	Yes	Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	2.0%	29.1%	26.7%	21.6%	12.8%	7.8%	100.0%

		% within Q2 Age of the respondent	85.7%	78.2%	78.2%	79.0%	73.1%	69.7%	77.1%
Total		Count	7	110	101	81	52	33	384
		% within 2 Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
		% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.106 ^a	5	.834
Likelihood Ratio	2.062	5	.841
N of Valid Cases	384		

a. 1 cells (8.3%) have expected count less than 5. The minimum expected count is 1.60.

A substantial number of smallholder farmers between the ages of twenty-one to sixty years old affirm that they do indeed share the methods and experiences gained from farm/agriculture programs with other farmers. This assertion is further supported by the chi-square test, which yields a p-value of 2.106^a and an Asymp. Sig of .834, both exceeding the significance level of .05. Consequently, the null hypothesis is accepted and deemed significant, indicating a consensus among farmers within this age group regarding the dissemination of agricultural knowledge and practices to their peers.

After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?* Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods	No	Count	6	54	50	30	23	18	181
		% within 3							
		After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?	3.3%	29.8%	27.6%	16.6%	12.7%	9.9%	100.0%
	Yes	% within Q2 Age of the respondent	85.7%	49.1%	49.5%	37.0%	44.2%	54.5%	47.1%
		Count	1	56	51	51	29	15	203

of farming practices?	% within 3 After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?	0.5%	27.6%	25.1%	25.1%	14.3%	7.4%	100.0%
	% within Q2Age of the respondent	14.3%	50.9%	50.5%	63.0%	55.8%	45.5%	52.9%
Total	Count	7	110	101	81	52	33	384
	% within 3 After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%

	% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.796 ^a	5	.117
Likelihood Ratio	9.222	5	.101
N of Valid Cases	384		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 3.30.

Among smallholder farmers aged 21 to 50 years old, a majority indicated affirmatively that they introduced new crops and/or methods after beginning to view agricultural media content. This alignment with the null hypothesis is supported by a p-value of 8.796^a and an Asymp. Sig. of .117, both exceeding the threshold of .05. Therefore, the null hypothesis is accepted, underscoring a consensus within this age demographic regarding the adoption of novel agricultural practices prompted by exposure to media content.

Do the new farming skills you gain from the media and practice help to increase the harvest and profit?* Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
4 Do the new farming skills you gain from the media and practice help to	No	Count	6	48	47	25	18	15	159
		% within 4 Do the new farming skills you gain from the media and practice help to increase the harvest and profit?	3.8%	30.2%	29.6%	15.7%	11.3%	9.4%	100.0%

increase the harvest and profit?		% within Q2 Age of the respondent	85.7%	43.6%	46.5%	30.9%	34.6%	45.5%	41.4%
	Yes	Count	1	62	54	56	34	18	225
		% within 4 Do the new farming skills you gain from the media and practice help to increase the harvest and profit?	0.4%	27.6%	24.0%	24.9%	15.1%	8.0%	100.0%
		% within Q2 Age of the respondent	14.3%	56.4%	53.5%	69.1%	65.4%	54.5%	58.6%
Total		Count	7	110	101	81	52	33	384
		% within 4 Do the new farming skills you gain from the media and practice help to increase the harvest and profit?	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
		% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.906^a	5	.036
Likelihood Ratio	12.284	5	.031
N of Valid Cases	384		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 2.90.

A significant proportion of smallholder farmers, particularly those aged 21 to 50 years old, engage in experimenting with new farm and agriculture methods disseminated through media channels. Conversely, there are also farmers within this age range who do not participate in such experimentation. This divergence in responses leads to the rejection of the null hypothesis and the acceptance of the alternate hypothesis. This decision is supported by an Asymp. Sig. of .04, which is smaller than the critical value of .05. Thus, it is evident that there is a discernible difference in the adoption of new agricultural methods among farmers in this demographic, underscoring the influence of media-based agricultural information dissemination.

Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?* Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
5	Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and	Count	4	42	28	19	18	13	124
	No	% within 5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	3.2%	33.9%	22.6%	15.3%	14.5%	10.5%	100.0%

national for bringing the farming skills introduced through media into practice?		% within Q2 Age of the respondent	57.1%	38.2%	27.7%	23.5%	34.6%	39.4%	32.3%
	Rarely	Count	2	43	38	36	20	7	146
		% within 5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	1.4%	29.5%	26.0%	24.7%	13.7%	4.8%	100.0%
		% within Q2 Age of the respondent	28.6%	39.1%	37.6%	44.4%	38.5%	21.2%	38.0%
	Yes	Count	1	25	35	26	14	13	114

		% within 5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	0.9%	21.9%	30.7%	22.8%	12.3%	11.4%	100.0%
		% within Q2 Age of the respondent	14.3%	22.7%	34.7%	32.1%	26.9%	39.4%	29.7%
Total		Count	7	110	101	81	52	33	384
		% within 5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%

	% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.803 ^a	10	.182
Likelihood Ratio	14.283	10	.160
N of Valid Cases	384		

a. 3 cells (16.7%) have expected count less than 5. The minimum expected count is 2.08.

The null hypothesis, suggesting that smallholder farmers rarely receive full support and follow-up actions from farm/agriculture officers, is deemed significant. This conclusion is supported by a p-value of 13.803^a and an Asymp. Sig. of .182, which exceeds the critical threshold of .05. Thus, there is statistical evidence to accept the null hypothesis, indicating a prevailing perception among smallholder farmers that they do not consistently receive adequate support and follow-up from farm/agriculture officers.

4.4c: Objective 3: To find out the communication strategies being used by various agencies to promote agriculture

Do you know any NGO out of the government promote agriculture development * Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
1 Do you know any NGO out of the government promote agriculture development?	Maybe	Count	3	34	32	20	20	10	119
		% within 1 Do you know any NGO out of the government promote agriculture development?	2.5%	28.6%	26.9%	16.8%	16.8%	8.4%	100.0%
		% within Q2 Age of the respondent	42.9%	30.9%	31.7%	24.7%	38.5%	30.3%	31.0%
	No	Count	1	26	28	11	10	9	85

		% within 1 Do you know any NGO out of the government promote agriculture development?	1.2%	30.6%	32.9%	12.9%	11.8%	10.6%	100.0%
		% within Q2 Age of the respondent	14.3%	23.6%	27.7%	13.6%	19.2%	27.3%	22.1%
	Yes	Count	3	50	41	50	22	14	180
		% within 1 Do you know any NGO out of the government promote agriculture development?	1.7%	27.8%	22.8%	27.8%	12.2%	7.8%	100.0%
		% within Q2 Age of the respondent	42.9%	45.5%	40.6%	61.7%	42.3%	42.4%	46.9%
Total		Count	7	110	101	81	52	33	384
		% within 1 Do you know any NGO out of the government promote agriculture development?	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
		% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.419 ^a	10	.258
Likelihood Ratio	12.435	10	.257
N of Valid Cases	384		

a. 3 cells (16.7%) have expected count less than 5.

The minimum expected count is 1.55.

Between the ages of twenty-one and fifty, the majority of farmers acknowledged awareness of non-governmental organizations (NGOs) that promote agriculture. Thus, the null hypothesis was accepted, supported by a p-value of 12.419^a and an Asymptotic Significance (Sig.) of .258, both exceeding the threshold of .05.

How did you know that organization which promotes agriculture development? *
Q2 Age of the respondent

			Q2 Age of the respondent					
			Below 20	21-30	31-40	41-50	51-60	Above 60
2 How did you know that organization which promotes agriculture development ?		Count	1	0	0	0	0	0
		% within 2 How did you know that organization which promotes agriculture development ?	100.0 %	0.0%	0.0%	0.0%	0.0%	0.0%
		% within Q2 Age of the respondent	14.3%	0.0%	0.0%	0.0%	0.0%	0.0%
	They came to the village physically	Count	3	38	31	28	16	11
		% within 2 How did you know that organization which promotes agriculture development ?	2.4%	29.9 %	24.4 %	22.0 %	12.6 %	8.7%
		% within Q2 Age of the respondent	42.9%	34.5 %	30.7 %	34.6 %	30.8 %	33.3%

	Through Extension/Agriculture Officers	Count	0	23	25	22	6	1
		% within 2 How did you know that organization which promotes agriculture development ?	0.0%	29.9 %	32.5 %	28.6 %	7.8%	1.3%
		% within Q2 Age of the respondent	0.0%	20.9 %	24.8 %	27.2 %	11.5 %	3.0%
	Through Leaders	Count	0	9	14	3	3	2
		% within 2 How did you know that organization which promotes agriculture development ?	0.0%	29.0 %	45.2 %	9.7%	9.7%	6.5%
		% within Q2 Age of the respondent	0.0%	8.2%	13.9 %	3.7%	5.8%	6.1%
	Through Media	Count	1	12	13	9	10	4
		% within 2 How did you know that organization which promotes agriculture development ?	2.0%	24.5 %	26.5 %	18.4 %	20.4 %	8.2%

		% within Q2 Age of the respondent	14.3%	10.9 %	12.9 %	11.1 %	19.2 %	12.1%
	Through other people	Count	2	28	18	19	17	15
		% within 2 How did you know that organization which promotes agriculture development ?	2.0%	28.3 %	18.2 %	19.2 %	17.2 %	15.2%
		% within Q2 Age of the respondent	28.6%	25.5 %	17.8 %	23.5 %	32.7 %	45.5%
Total	Count		7	110	101	81	52	33
	% within 2 How did you know that organization which promotes agriculture development ?		1.8%	28.6 %	26.3 %	21.1 %	13.5 %	8.6%
	% within Q2 Age of the respondent		100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square	83.664^a	25	.000
Likelihood Ratio	41.408	25	.021
N of Valid Cases	384		

a. 14 cells (38.9%) have expected count less than 5. The minimum expected count is .02.

Numerous small-scale farmers aged 21 to 50 acknowledged acquaintance with Non-Governmental Organizations (NGOs) dedicated to agricultural development. These NGOs physically visited the villages to introduce themselves, their objectives, and their initiatives. Additionally, a majority of farmers cited their awareness of such NGOs through agricultural officers' extensions and information shared by others. This diversity in sources leads to the insignificance of the null hypothesis, bolstered by an Asymp. Sig. of .000, which falls below the critical threshold of .05.

Which methods used by them/NGOs to promote agriculture development- Through Agriculture Programmes on the media * Q2 Age of the respondent

			5 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
3 Which methods used by them/NGOs to promote agriculture development- Through Agriculture Programmes on the media	No (0)	Count	5	89	79	70	43	27	313
		% within 3 Which methods used by them/NGOs to promote agriculture development- Through Agriculture Programmes on the media	1.6%	28.4%	25.2%	22.4%	13.7%	8.6%	100.0%
		% within Q2 Age of the respondent	71.4%	80.9%	78.2%	86.4%	82.7%	81.8%	81.5%
	Yes	Count	2	21	22	11	9	6	71

	(1)	% within 3 Which methods used by themNGOs to promote agriculture development- Through Agriculture Programmes on the media	2.8%	29.6%	31.0%	15.5%	12.7%	8.5%	100.0%
		% within Q2 Age of the respondent	28.6%	19.1%	21.8%	13.6%	17.3%	18.2%	18.5%
Total		Count	7	110	101	81	52	33	384
		% within 3 Which methods used by themNGOs to promote agriculture development- Through Agriculture Programmes on the media	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
		% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.571 ^a	5	.766
Likelihood Ratio	2.593	5	.762
N of Valid Cases	384		

a. 1 cells (8.3%) have expected count less than 5. The minimum expected count is 1.29.

Various approaches are employed by Non-Governmental Organizations (NGOs) to foster agricultural development. However, over three-quarters of the sample, primarily comprising individuals aged 21 to 60, indicated that these NGOs do not utilize

agricultural programs in the media for promotional purposes. Consequently, the null hypothesis is deemed significant and accepted, supported by an Asymp. Sig. of .766, which exceeds the threshold of .05.

**Which methods used by them/NGOs to promote agriculture development- Through
Distribution of Brochures and notes * Q2 Age of the respondent**

			5 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
3 Which methods used by themNGOs to promote agriculture development- Through Distribution of Brochures and notes	No (0)	Count	7	98	94	74	46	33	352
		% within 3 Which methods used by themNGOs to promote agriculture development- Through Distribution of Brochures and notes	2.0%	27.8%	26.7%	21.0%	13.1%	9.4%	100.0%
		% within Q2 Age of the respondent	100.0%	89.1%	93.1%	91.4%	88.5%	100.0%	91.7%
	Yes (1)	Count	0	12	7	7	6	0	32
		% within 3 Which methods used by themNGOs to promote agriculture development- Through Distribution of Brochures and notes	0.0%	37.5%	21.9%	21.9%	18.8%	0.0%	100.0%
		% within Q2 Age of the respondent	0.0%	10.9%	6.9%	8.6%	11.5%	0.0%	8.3%
	Total		Count	7	110	101	81	52	33

	% within 3 Which methods used by themNGOs to promote agriculture development- Through Distribution of Brochures and notes	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
	% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.561 ^a	5	.351
Likelihood Ratio	8.754	5	.119
N of Valid Cases	384		

a. 3 cells (25.0%) have expected count less than 5. The minimum expected count is .58.

Various strategies are employed by Non-Governmental Organizations (NGOs) to advance agricultural development. However, nearly all respondents, particularly those aged 21 to 60, stated that these NGOs do not utilize the distribution of brochures and notes for agricultural promotion. Consequently, the null hypothesis is deemed significant and accepted, supported by a p-value of 5.561^a and an Asymp. Sig. of .351, which exceeds the threshold of .05.

Which methods used by them/NGOs to promote agriculture development- Through Seminars * Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
3 Which	No	Count	4	42	37	25	20	17	145

methods used by themNGOs to promote agriculture development- Through Seminars	(0)	% within 3 Which methods used by themNGOs to promote agriculture development- Through Seminars	2.8%	29.0%	25.5%	17.2%	13.8%	11.7%	100.0%
		% within Q2 Age of the respondent	57.1%	38.2%	36.6%	30.9%	38.5%	51.5%	37.8%
	Yes (1)	Count	3	68	64	56	32	16	239
		% within 3 Which methods used by themNGOs to promote agriculture development- Through Seminars	1.3%	28.5%	26.8%	23.4%	13.4%	6.7%	100.0%
		% within Q2 Age of the respondent	42.9%	61.8%	63.4%	69.1%	61.5%	48.5%	62.2%
		Count	7	110	101	81	52	33	384
Total		% within 3 Which methods used by themNGOs to promote agriculture development- Through Seminars	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
		% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		Count	7	110	101	81	52	33	384

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)

Pearson Chi-Square	5.488 ^a	5	.359
Likelihood Ratio	5.405	5	.369
N of Valid Cases	384		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 2.64.

Among the array of methods employed by Non-Governmental Organizations (NGOs) to foster agricultural development, over half of the respondents, primarily those aged 21 to 60, affirmed the use of seminars to engage smallholder farmers. Therefore, the null hypothesis is considered significant and accepted, with a p-value of 5.488^a and an Asymp. Sig. of .359, exceeding the threshold of .05.

Which methods used by them/NGOs to promote agriculture development- Through training
*** Q2 Age of the respondent**

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
3 Which methods used by themNGOs to promote agriculture development- Through training	No (0)	Count	4	54	53	39	23	13	186
		% within 3 Which methods used by themNGOs to promote agriculture devel C 3							
		Which methods used by themNGOs to promote agriculture development- Through training	2.2%	29.0%	28.5%	21.0%	12.4%	7.0%	100.0%
		% within Q2 Age of the respondent	57.1%	49.1%	52.5%	48.1%	44.2%	39.4%	48.4%
	Yes	Count	3	56	48	42	29	20	198

	(1)	% within 3 Which methods used by themNGOs to promote agriculture devel C 3 Which methods used by themNGOs to promote agriculture development- Through training	1.5%	28.3%	24.2%	21.2%	14.6%	10.1%	100.0%
		% within Q2 Age of the respondent	42.9%	50.9%	47.5%	51.9%	55.8%	60.6%	51.6%
Total		Count	7	110	101	81	52	33	384
		% within 3 Which methods used by themNGOs to promote agriculture devel C 3 Which methods used by themNGOs to promote agriculture development- Through training	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
		% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.342 ^a	5	.800
Likelihood Ratio	2.353	5	.798

N of Valid Cases	384		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 3.39.

Among the various methods employed by Non-Governmental Organizations (NGOs) to promote agricultural development, more than half of the respondents, particularly those aged 21 to 60, confirmed the utilization of training sessions for smallholder farmers. Consequently, the null hypothesis is considered significant and accepted, with a p-value of 2.342^a and an Asymp. Sig. of .800, surpassing the threshold of .05.

Do they/NGOs offer any support for improving agriculture? * Q2 Age of the respondent

			Q2Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
4 Do they/NGOs offer any support for improving agriculture?	No	Count	1	17	12	3	8	7	48
		% within 4 Do they/NGOs offer any support for improving agriculture?	2.1%	35.4%	25.0%	6.3%	16.7%	14.6%	100.0%
		% within Q2 Age of the respondent	14.3%	15.5%	11.9%	3.7%	15.4%	21.2%	12.5%
	Rarely	Count	1	35	35	25	12	9	117
		% within 4 Do they/NGOs offer any support for improving agriculture?	0.9%	29.9%	29.9%	21.4%	10.3%	7.7%	100.0%
		% within Q2 Age of the respondent	14.3%	31.8%	34.7%	30.9%	23.1%	27.3%	30.5%
	Yes	Count	5	58	54	53	32	17	219

		% within 4 Do they/NGOs offer any support for improving agriculture?	2.3%	26.5%	24.7%	24.2%	14.6%	7.8%	100.0%
		% within Q2 Age of the respondent	71.4%	52.7%	53.5%	65.4%	61.5%	51.5%	57.0%
Total		Count	7	110	101	81	52	33	384
		% within 4 Do they/NGOs offer any support for improving agriculture?	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
		% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.677 ^a	10	.242
Likelihood Ratio	14.350	10	.158
N of Valid Cases	384		

a. 4 cells (22.2%) have expected count less than 5. The minimum expected count is .88.

Smallholder farmers aged between twenty-one and sixty affirmed that NGOs promoting agriculture indeed provide support for enhancing agricultural practices. Consequently, the null hypothesis is accepted, supported by the p-value of 12.677^a and Asymp. Sig. of .242, which exceeds the threshold of .05.

Which support is provided by the NGOs for improving agriculture * Q2 Age of the respondent

	Q2 Age of the respondent

			Below 20	21-30	31-40	41-50	51-60	Above 60
5 Which support is provided by the NGOs for improving agriculture ?	Cash loan	Count	0	3	3	0	0	2
		% within 5 Which support is provided by the NGOs for improving agriculture ?	0.0%	37.5 %	37.5%	0.0%	0.0%	25.0%
		% within Q2 Age of the respondent	0.0%	2.7%	3.0%	0.0%	0.0%	6.1%
	Equipments/Materials loan	Count	1	24	21	19	10	7
		% within 5 Which support is provided by the NGOs for improving agriculture ?	1.2%	29.3 %	25.6%	23.2%	12.2 %	8.5%
		% within Q2 Age of the respondent	14.3%	21.8 %	20.8%	23.5%	19.2 %	21.2%
	Providing manure	Count	1	39	31	26	20	10
		% within 5 Which support is provided by the NGOs for improving agriculture ?	0.8%	30.7 %	24.4%	20.5%	15.7 %	7.9%

		% within Q2 Age of the respondent	14.3%	35.5 %	30.7%	32.1%	38.5 %	30.3%
	Providing seeds	Count	5	44	46	36	22	14
		% within 5 Which support is provided by the NGOs for improving agriculture ?	3.0%	26.3 %	27.5%	21.6%	13.2 %	8.4%
		% within 5 Age of the respondent	71.4%	40.0 %	45.5%	44.4%	42.3 %	42.4%
Total		Count	7	110	101	81	52	33
		% within 5 Which support is provided by the NGOs for improving agriculture ?	1.8%	28.6 %	26.3%	21.1%	13.5 %	8.6%
		% within Q2 Age of the respondent	100.0 %	100.0 %	100.0%	100.0 %	100.0 %	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.860 ^a	15	.828
Likelihood Ratio	11.858	15	.690

N of Valid Cases	384		

a. 9 cells (37.5%) have expected count less than 5. The minimum expected count is .15.

Regarding the support provided by NGOs to enhance agriculture, a majority of small-scale farmers indicated the provision of seeds, followed by those mentioning manure. These responses were predominantly from individuals aged between twenty-one and sixty years old. The chi-square analysis also validates the significance of the null hypothesis, with a p-value of 9.860^a and Asymp. Sig. of .828, surpassing the .05 threshold.

Do these supports help you in improving the agriculture? * Q2 Age of the respondent

			Q2Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
6 Do these supports help you in improving the agriculture?	Agree	Count	1	58	67	46	26	12	210
		% within 6 Do these supports help you in improving the agriculture?	0.5%	27.6%	31.9%	21.9%	12.4%	5.7%	100.0%
		% within Q2 Age of the respondent	14.3%	52.7%	66.3%	56.8%	50.0%	36.4%	54.7%
	Disagree	Count	1	14	6	6	8	3	38
		% within 6 Do these supports help you in improving the agriculture?	2.6%	36.8%	15.8%	15.8%	21.1%	7.9%	100.0%
		% within Q2 Age of the respondent	14.3%	12.7%	5.9%	7.4%	15.4%	9.1%	9.9%
	Neutral	Count	5	32	19	24	17	16	113

		% within 6 Do these supports help you in improving the agriculture?	4.4%	28.3%	16.8%	21.2%	15.0%	14.2%	100.0%
		% within Q2 Age of the respondent	71.4%	29.1%	18.8%	29.6%	32.7%	48.5%	29.4%
	Strong agree	Count	0	5	3	3	0	0	11
		% within 6 Do these supports help you in improving the agriculture?	0.0%	45.5%	27.3%	27.3%	0.0%	0.0%	100.0%
		% within Q2 Age of the respondent	0.0%	4.5%	3.0%	3.7%	0.0%	0.0%	2.9%
	Strongly disagree	Count	0	1	6	2	1	2	12
		% within 6 Do these supports help you in improving the agriculture?	0.0%	8.3%	50.0%	16.7%	8.3%	16.7%	100.0%
		% within Q2 Age of the respondent	0.0%	0.9%	5.9%	2.5%	1.9%	6.1%	3.1%
	Total	Count	7	110	101	81	52	33	384
		% within 6 Do these supports help you in improving the agriculture?	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%

	% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	33.734^a	20	.028
Likelihood Ratio	36.074	20	.015
N of Valid Cases	384		

a. 16 cells (53.3%) have expected count less than 5. The minimum expected count is .20.

On the contrary, the researcher sought to determine whether the support provided by agriculture-promoting NGOs aids in agricultural improvement. The findings reveal that most farmers aged twenty-one to fifty years old concurred, while a significant portion of those aged twenty-one to sixty were uncertain about the impact of such support. Consequently, the null hypothesis lacks significance, as evidenced by an Asymp. Sig. of .028, falling below the .05 threshold.

4.4d: Objective 4: To examine the role of media in the development of the rural areas in Tanzania.

Media brings the understanding knowledge concern rural development. * Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
Media brings the understanding knowledge concern rural development	Agree	Count	1	57	58	40	27	5	188
		% within 1 Media brings the understanding knowledge concern rural development	0.5%	30.3%	30.9%	21.3%	14.4%	2.7%	100.0%
		% within Q2 Age of the respondent	14.3%	51.8%	57.4%	49.4%	51.9%	15.2%	49.0%
	Disagree	Count	2	4	5	6	3	1	21

		% within 1 1 Media brings the understanding knowledge concern rural development	9.5%	19.0%	23.8%	28.6%	14.3%	4.8%	100.0 %	
		% within Q2 Age of the respondent	28.6%	3.6%	5.0%	7.4%	5.8%	3.0%	5.5%	
	Neutral	Count	4	44	32	29	21	23	153	
		% within 1 1 Media brings the understanding knowledge concern rural development	2.6%	28.8%	20.9%	19.0%	13.7%	15.0%	100.0 %	
		% within Q2 Age of the respondent	57.1%	40.0%	31.7%	35.8%	40.4%	69.7%	39.8 %	
	Strong agree	Count	0	4	3	4	0	2	13	
		% within 1 1 Media brings the understanding knowledge concern rural development	0.0%	30.8%	23.1%	30.8%	0.0%	15.4%	100.0 %	
		% within Q2 Age of the respondent	0.0%	3.6%	3.0%	4.9%	0.0%	6.1%	3.4%	
	Strong disagree	Count	0	1	3	2	1	2	9	
		% within 1 1 Media brings the understanding knowledge concern rural development	0.0%	11.1%	33.3%	22.2%	11.1%	22.2%	100.0 %	
		% within Q2 Age of the respondent	0.0%	0.9%	3.0%	2.5%	1.9%	6.1%	2.3%	
	Total		Count	7	110	101	81	52	33	384

	% within 1 1 Media brings the understanding knowledge concern rural development	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0 %
	% within Q2Age of the respondent	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0%	100.0 %

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36.227^a	20	.014
Likelihood Ratio	36.709	20	.013
N of Valid Cases	384		

a. 18 cells (60.0%) have expected count less than 5. The minimum expected count is .16.

A considerable number of small-scale farmers aged twenty-one to fifty acknowledged that the media raises awareness about rural development. However, the majority of respondents aged twenty-one and above to sixty were uncertain if the media fulfills this role. This observation is consistent with the chi-square test results, indicating a p-value of 36.227^a and an Asymp. Sig. of .014, which falls below the .05 threshold. Consequently, the null hypothesis is rejected, and the alternative hypothesis—asserting that the media does indeed present awareness about rural development—is accepted.

Media presents the information about the government/NGOs policies regarding rural development * Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
2 Media	Agree	Count	1	40	38	34	19	5	137

presents the information about the government NGOs policies regarding rural development		% within 2 Media presents the information about the government NGOs policies regarding rural development	0.7%	29.2%	27.7%	24.8%	13.9%	3.6%	100.0%
		% within Q2 Age of the respondent	14.3%	36.4%	37.6%	42.0%	36.5%	15.2%	35.7%
	Disagree	Count	2	6	4	3	5	1	21
		% within 2 Media presents the information about the government NGOs policies regarding rural development	9.5%	28.6%	19.0%	14.3%	23.8%	4.8%	100.0%
		% within Q2 Age of the respondent	28.6%	5.5%	4.0%	3.7%	9.6%	3.0%	5.5%
	Neutral	Count	4	62	56	39	27	26	214
		% within 2 Media presents the information about the government NGOs policies regarding rural development	1.9%	29.0%	26.2%	18.2%	12.6%	12.1%	100.0%
		% within Q2 Age of the respondent	57.1%	56.4%	55.4%	48.1%	51.9%	78.8%	55.7%
	Strong	Count	0	1	2	4	0	1	8

	agree	% within 2 Media presents the information about the government NGOs policies regarding rural development	0.0%	12.5%	25.0%	50.0%	0.0%	12.5%	100.0%
		% within Q2 Age of the respondent	0.0%	0.9%	2.0%	4.9%	0.0%	3.0%	2.1%
	Strong disagree	Count	0	1	1	1	1	0	4
		% within 2 Media presents the information about the government NGOs policies regarding rural development	0.0%	25.0%	25.0%	25.0%	25.0%	0.0%	100.0%
		% within Q2 Age of the respondent	0.0%	0.9%	1.0%	1.2%	1.9%	0.0%	1.0%
		Count	7	110	101	81	52	33	384
Total		% within 2 Media presents the information about the government NGOs policies regarding rural development	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
		% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	25.794 ^a	20	.173
Likelihood Ratio	24.051	20	.240
N of Valid Cases	384		

a. 18 cells (60.0%) have expected count less than 5. The minimum expected count is .07.

The null hypothesis, suggesting that the media presents information about government and NGOs policies regarding rural development, is accepted, indicated by a p-value of 25.794^a and an Asymp. Sig. of .173, which exceeds the .05 threshold. However, a significant number of small-holder farmers aged twenty-one to fifty concurred with this assertion, while most respondents aged twenty-one and above to sixty admitted to being unaware if the media conveys such information. This lack of awareness may stem from the rural community's limited understanding of policy matters, making it difficult for them to comprehend even if such policies are broadcasted through the media.

Media presents the information about the development budget for rural areas * Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
3 Media presents the information about the development budget for rural areas	Agree	Count	0	30	40	30	16	6	122
		% within 3 Media presents the information about the development budget for rural areas	0.0%	24.6%	32.8%	24.6%	13.1%	4.9%	100.0%
		% within Q2 Age of the respondent	0.0%	27.3%	39.6%	37.0%	30.8%	18.2%	31.8%
	Disagree	Count	3	9	10	6	3	0	31

		% within 3 Media presents the information about the development budget for rural areas	9.7%	29.0%	32.3%	19.4%	9.7%	0.0%	100.0%
		% within Q2 Age of the respondent	42.9%	8.2%	9.9%	7.4%	5.8%	0.0%	8.1%
	Neutral	Count	4	70	48	43	32	26	223
		% within 3 Media presents the information about the development budget for rural areas	1.8%	31.4%	21.5%	19.3%	14.3%	11.7%	100.0%
		% within Q2 Age of the respondent	57.1%	63.6%	47.5%	53.1%	61.5%	78.8%	58.1%
		Count	0	1	0	2	0	1	4
	Strong agree	% within 3 Media presents the information about the development budget for rural areas	0.0%	25.0%	0.0%	50.0%	0.0%	25.0%	100.0%
		% within Q2 Age of the respondent	0.0%	0.9%	0.0%	2.5%	0.0%	3.0%	1.0%
		Count	0	0	3	0	1	0	4
	Strong disagree	% within 3 Media presents the information about the development budget for rural areas	0.0%	0.0%	75.0%	0.0%	25.0%	0.0%	100.0%

		% within Q2 Age of the respondent	0.0%	0.0%	3.0%	0.0%	1.9%	0.0%	1.0%
Total	Count		7	110	101	81	52	33	384
	% within 3 Media presents the information about the development budget for rural areas		1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
	% within Q2 Age of the respondent		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square	37.816^a	20	.009
Likelihood Ratio	39.358	20	.006
N of Valid Cases	384		

a. 17 cells (56.7%) have expected count less than 5. The minimum expected count is .07.

Regarding whether the media presents information about the development budget for rural areas, a substantial portion of respondents aged twenty-one and above to sixty admitted to being unaware of such media coverage. This trend led to the rejection of the null hypothesis, as evidenced by a p-value of 37.816^a and an Asymp. Sig. of .009, indicating statistical significance below the .05 threshold.

Media works well with the participatory approaches/ communication and developmental opportunities. * Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
4 Media works	Agree	Count	1	39	49	38	24	10	161

well with the participatory approaches/ communication and developmental opportunities		% within 4 Media works well with the participatory approaches/ communication and developmental opportunities	0.6%	24.2%	30.4%	23.6%	14.9%	6.2%	100.0%
		% within Q2 Age of the respondent	14.3%	35.5%	48.5%	46.9%	46.2%	30.3%	41.9%
	Disagree	Count	3	5	7	3	3	0	21
		% within 4 Media works well with the participatory approaches/ communication and developmental opportunities	14.3%	23.8%	33.3%	14.3%	14.3%	0.0%	100.0%
		% within Q2 Age of the respondent	42.9%	4.5%	6.9%	3.7%	5.8%	0.0%	5.5%
	Neutral	Count	3	64	42	39	24	22	194
		% within 4 Media works well with the participatory approaches/ communication and developmental opportunities	1.5%	33.0%	21.6%	20.1%	12.4%	11.3%	100.0%
		% within Q2 Age of the respondent	42.9%	58.2%	41.6%	48.1%	46.2%	66.7%	50.5%
	Strong	Count	0	2	1	1	0	1	5

	agree	% within 4 Media works well with the participatory approaches/ communication and developmental opportunities	0.0%	40.0%	20.0%	20.0%	0.0%	20.0%	100.0%
		% within Q2 Age of the respondent	0.0%	1.8%	1.0%	1.2%	0.0%	3.0%	1.3%
	Strong disagree	Count	0	0	2	0	1	0	3
		% within 4 Media works well with the participatory approaches/ communication and developmental opportunities	0.0%	0.0%	66.7%	0.0%	33.3%	0.0%	100.0%
		% within Q2 Age of the respondent	0.0%	0.0%	2.0%	0.0%	1.9%	0.0%	0.8%
		Count	7	110	101	81	52	33	384
Total		% within 4 Media works well with the participatory approaches/ communication and developmental opportunities	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%
		% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		Count	7	110	101	81	52	33	384

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.224^a	20	.011
Likelihood Ratio	30.266	20	.066
N of Valid Cases	384		

a. 18 cells (60.0%) have expected count less than 5. The minimum expected count is .05.

When examining whether the media effectively engages in participatory approaches, communication, and developmental opportunities, a considerable number of respondents aged twenty-one and above to sixty expressed uncertainty regarding this aspect. Consequently, the null hypothesis was rejected due to a p-value of 37.816^a and an Asymp. Sig of .011, indicating statistical significance below the .05 threshold.

Media take the rural development projects to the doorsteps of the people * Q2 Age of the respondent

			Q2 Age of the respondent						Total
			Below 20	21-30	31-40	41-50	51-60	Above 60	
5 Media take the rural development projects to the doorsteps of the people	Agree	Count	1	38	42	32	15	5	133
		% within 5 Media take the rural development projects to the doorsteps of people	0.8%	28.6%	31.6%	24.1%	11.3%	3.8%	100.0%
		% within Q2 Age of the respondent	14.3%	34.5%	41.6%	39.5%	28.8%	15.2%	34.6%
	Disagree	Count	2	8	12	6	3	2	33
		% within 5 Media take the rural development projects to the doorsteps of people	6.1%	24.2%	36.4%	18.2%	9.1%	6.1%	100.0%
		% within Q2 Age of the respondent	28.6%	7.3%	11.9%	7.4%	5.8%	6.1%	8.6%
	Neutral	Count	4	62	44	41	31	25	207

		% within 5 Media take the rural development projects to the doorsteps of people	1.9%	30.0%	21.3%	19.8%	15.0%	12.1%	100.0%
		% within Q2 Age of the respondent	57.1%	56.4%	43.6%	50.6%	59.6%	75.8%	53.9%
	Strong agree	Count	0	2	2	1	1	1	7
		% within 5 Media take the rural development projects to the doorsteps of people	0.0%	28.6%	28.6%	14.3%	14.3%	14.3%	100.0%
		% within Q2 Age of the respondent	0.0%	1.8%	2.0%	1.2%	1.9%	3.0%	1.8%
		Count	0	0	1	1	2	0	4
	Strong disagree	% within 5 Media take the rural development projects to the doorsteps of people	0.0%	0.0%	25.0%	25.0%	50.0%	0.0%	100.0%
		% within Q2 Age of the respondent	0.0%	0.0%	1.0%	1.2%	3.8%	0.0%	1.0%
		Count	7	110	101	81	52	33	384
	Total	% within 5 Media take the rural development projects to the doorsteps of people	1.8%	28.6%	26.3%	21.1%	13.5%	8.6%	100.0%

	% within Q2 Age of the respondent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square	24.149 ^a	20	.236
Likelihood Ratio	23.866	20	.248
N of Valid Cases	384		

a. 17 cells (56.7%) have expected count less than 5. The minimum expected count is .07.

The researcher also investigated whether the media actively brings rural development projects to the community. The responses indicated that a significant proportion of smallholder farmers, spanning from age twenty-one to over sixty, were uncertain about whether the media undertakes this task. Meanwhile, a majority of respondents aged twenty-one to fifty affirmed this notion. One plausible explanation for the uncertainty could be attributed to the timing of media outreach, as farmers may be occupied with their daily tasks, such as working in the fields, when media representatives visit. The chi-square test revealed a significant result, with a p-value of 24.149^a and an Asymp. Sig of .236, which exceeds the .05 threshold, supporting the acceptance of the null hypothesis.

4.5a: Objective 1: To a study the role of media in inculcating, adaptation of innovation and barriers in agriculture among small holder famers of Tanzania

What is your source of media which you use in accessing agriculture information? * Q3

What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q9 B1 What	Newspaper	Count	2	0	0	1	0	3

is your source of media which you use in accessing agriculture information?		% within Q9 B1 What is your source of media which you use in accessing agriculture information?	66.7%	0.0%	0.0%	33.3%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	1.7%	0.0%	0.0%	0.9%	0.0%	0.8%
	Radio	Count	94	73	22	103	13	305
		% within Q9 B1 What is your source of media which you use in accessing agriculture information?	30.8%	23.9%	7.2%	33.8%	4.3%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	79.0%	75.3%	64.7%	88.0%	76.5%	79.4%
	Television	Count	22	24	12	13	4	75
		% within Q9 B1 What is your source of media which you use in accessing agriculture information?	29.3%	32.0%	16.0%	17.3%	5.3%	100.0%

		% within Q3 What is your income level? In Tanzanian Shillings per year	18.5%	24.7%	35.3%	11.1%	23.5%	19.5%
	What's App	Count	1	0	0	0	0	1
		% within Q9 B1 What is your source of media which you use in accessing agriculture information?	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	0.8%	0.0%	0.0%	0.0%	0.0%	0.3%
Total	Count		119	97	34	117	17	384
	% within Q9 B1 What is your source of media which you use in accessing agriculture information?		31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
	% within Q3 What is your income level? In Tanzanian Shillings per year		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.003 ^a	12	.149

Likelihood Ratio	17.830	12	.121
N of Valid Cases	384		

a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .04.

The majority of smallholder farmers who favor radio as their primary source of agricultural information have an income of less than Tanzanian Shillings 300,000/=. The null hypothesis is deemed significant and accepted, supported by a p-value of 17.003^a and an Asymp. Sig of .149, exceeding the .05 threshold.

The media which broadcasts the more innovative farming methods.* Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q10 B2 The media which broadcasts the more innovative farming methods.	Newspaper	Count	2	0	0	2	0	4
		% within Q10 B2 The media which broadcasts the more innovative farming methods.	50.0%	0.0%	0.0%	50.0%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	1.7%	0.0%	0.0%	1.7%	0.0%	1.0%
	Radio	Count	93	72	21	101	12	299

		% within Q10 B2 The media which broadcasts the more innovative farming methods.	31.1%	24.1%	7.0%	33.8%	4.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	78.2%	74.2%	61.8%	86.3%	70.6%	77.9%
	Televison	Count	23	25	13	14	5	80
		% within Q10 B2 The media which broadcasts the more innovative farming methods.	28.8%	31.3%	16.3%	17.5%	6.3%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	19.3%	25.8%	38.2%	12.0%	29.4%	20.8%
	What's	Count	1	0	0	0	0	1

	App	% within Q10 B2 The media which broadcasts the more innovative farming methods.	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	0.8%	0.0%	0.0%	0.0%	0.0%	0.3%
Total	Count		119	97	34	117	17	384
	% within Q10 B2 The media which broadcasts the more innovative farming methods.		31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
	% within Q3 What is your income level? In Tanzanian Shillings per year		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.449 ^a	12	.103
Likelihood Ratio	19.682	12	.073
N of Valid Cases	384		

a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .04.

Smallholder farmers with an income of less than 300,000/= Tanzanian Shillings predominantly favor radio as the medium that broadcasts more innovative farming methods. The null hypothesis is considered significant and accepted, supported by a p-value of 18.449^a and an Asymp. Sig of .103, which exceeds the .05 threshold.

What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media? * Q3. What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q11 B3 What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	Not relevant	Count	8	3	1	21	2	35
		% within Q11 B3 What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	22.9%	8.6%	2.9%	60.0%	5.7%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	6.7%	3.1%	2.9%	17.9%	11.8%	9.1%
	Relevant	Count	101	83	31	62	14	291

		% within Q11 B3 What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	34.7%	28.5%	10.7%	21.3%	4.8%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	84.9%	85.6%	91.2%	53.0%	82.4%	75.8%
	Very relevant	Count	10	11	2	34	1	58
		% within Q11 B3 What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	17.2%	19.0%	3.4%	58.6%	1.7%	100.0%

		% within Q3 What is your income level? In Tanzanian Shillings per year	8.4%	11.3%	5.9%	29.1%	5.9%	15.1%
Total		Count	119	97	34	117	17	384
		% within Q11 B3 What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	50.285^a	8	.000
Likelihood Ratio	49.161	8	.000
N of Valid Cases	384		

a. 3 cells (20.0%) have expected count less than

5. The minimum expected count is 1.55.

291 out of 384 respondents who find the frequency distribution of relevance of agricultural knowledge gained through mass media to be significant have an income level not exceeding 300,000/= Tanzanian Shillings.

Do these media sources meet the farmers' needs? * Q3 What is your income level?

In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q12 B4 Do these media sources meet the farmers' needs?	No	Count	17	12	4	51	4	88
		% within Q12 B4 Do these media sources meet the farmers' needs?	19.3%	13.6%	4.5%	58.0%	4.5%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	14.3%	12.4%	11.8%	43.6%	23.5%	22.9%
	Yes	Count	102	85	30	66	13	296
		% within Q12 B4 Do these media sources meet the farmers' needs?	34.5%	28.7%	10.1%	22.3%	4.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	14.3%	12.4%	11.8%	43.6%	23.5%	22.9%

		% within Q3 What is your income level? In Tanzanian Shillings per year	85.7%	87.6%	88.2%	56.4%	76.5%	77.1%
Total		Count	119	97	34	117	17	384
		% within Q12 B4 Do these media sources meet the farmers' needs?	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	41.828^a	4	.000
Likelihood Ratio	39.728	4	.000
N of Valid Cases	384		

a. 1 cells (10.0%) have expected count less than

5. The minimum expected count is 3.90.

The majority of smallholder farmers with an income less than 300,000/- Tanzanian Shillings affirmed that these mass media sources fulfill their information and knowledge needs.

The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices? * Q3 What is your income level?
In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q13 B5 The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?	No	Count	9	7	0	22	1	39
		% within Q13 B5 The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?	23.1%	17.9%	0.0%	56.4%	2.6%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	7.6%	7.2%	0.0%	18.8%	5.9%	10.2%
	Yes	Count	110	90	34	95	16	345
		% within Q13 B5 The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?	31.9%	26.1%	9.9%	27.5%	4.6%	100.0%

	% within Q3 What is your income level? In Tanzanian Shillings per year	92.4%	92.8%	100.0%	81.2%	94.1%	89.8%
Total	Count	119	97	34	117	17	384
	% within Q13 B5 The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
	% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.567^a	4	.004
Likelihood Ratio	17.516	4	.002
N of Valid Cases	384		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 1.73.

The majority of respondents, specifically 345 out of 384, indicated that farm/agriculture communication through media can enhance agricultural production and the adoption of new farming practices. Notably, these respondents are among those who earn less than 300,000/= Tanzanian Shillings per year.

What is the challenge which farmers are facing during accessing the agricultural information from the mass media? * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	Highly cost of purchasing and maintain media source	Count	36	38	9	55	5	143
		% within Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	25.2%	26.6%	6.3%	38.5%	3.5%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	30.3%	39.2%	26.5%	47.0%	29.4%	37.2%
	Inability to	Count	8	10	3	5	1	27

	write and read	% within Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	29.6%	37.0%	11.1%	18.5%	3.7%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	6.7%	10.3%	8.8%	4.3%	5.9%	7.0%
	Inadequate feedback mechanism	Count	18	17	9	30	7	81
		% within Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	22.2%	21.0%	11.1%	37.0%	8.6%	100.0%

		% within Q3 What is your income level? In Tanzanian Shillings per year	15.1%	17.5%	26.5%	25.6%	41.2%	21.1%
	Poor internet Connectivity	Count	4	1	3	1	0	9
		% within Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	44.4%	11.1%	33.3%	11.1%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	3.4%	1.0%	8.8%	0.9%	0.0%	2.3%
	Poor power	Count	8	9	3	1	1	22

	supply	% within Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	36.4%	40.9%	13.6%	4.5%	4.5%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	6.7%	9.3%	8.8%	0.9%	5.9%	5.7%
	Poor signal	Count	45	22	7	25	3	102
		% within Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	44.1%	21.6%	6.9%	24.5%	2.9%	100.0%

		% within Q3 What is your income level? In Tanzanian Shillings per year	37.8%	22.7%	20.6%	21.4%	17.6%	26.6%
Total		Count	119	97	34	117	17	384
		% within Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	41.375^a	20	.003
Likelihood Ratio	41.053	20	.004
N of Valid Cases	384		

a. 11 cells (36.7%) have expected count less than 5. The minimum expected count is .40.

Small-scale farmers who identified the challenges they encounter in accessing agricultural information through mass media, such as the high cost of purchasing and

maintaining media sources and poor signal quality, predominantly belong to the income bracket of less than 300,000/= Tanzanian shillings.

4.5b: Objective 2: To explore the changes in agriculture practices in rural areas of Tanzania through media.

Do you get the better harvest after applying the farming practices from the media?
*** Q3 What is your income level? In Tanzanian Shillings per year**

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q15 C1 Do you get the better harvest after applying the farming practices from the media?	No	Count	25	14	4	72	3	118
		% within Q15 C1 Do you get the better harvest after applying the farming practices from the media?	21.2%	11.9%	3.4%	61.0%	2.5%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	21.0%	14.4%	11.8%	61.5%	17.6%	30.7%
	Yes	Count	94	83	30	45	14	266

	% within Q15 C1 Do you get the better harvest after applying the farming practices from the media?	35.3%	31.2%	11.3%	16.9%	5.3%	100.0%
	% within Q3 What is your income level? In Tanzanian Shillings per year	79.0%	85.6%	88.2%	38.5%	82.4%	69.3%
Total	Count	119	97	34	117	17	384
	% within Q15 C1 Do you get the better harvest after applying the farming practices from the media?	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
	% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	76.669^a	4	.000
Likelihood Ratio	74.987	4	.000
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.22.

Farmers with an income of less than 300,000/= Tanzanian Shillings per year indicated that they experience improved harvests after implementing farming practices learned from the media. This group is further segmented into three income brackets: those earning less than 100,000/=, those earning between 100,001/= to 200,000/=, and those earning from 200,001/= to 300,000/=. While most farmers in the first two income brackets agreed, the null hypothesis is rejected due to its Asymp. Sig. of .000, indicating significance at a level lower than .05.

Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media? * Q3 What is your income level? In Tanzanian Shillings per year

				Q3 What is your income level? In Tanzanian Shillings per year					Total
				100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q16	C2	No	Count	37	11	2	37	1	88

Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?		% within Q16 C2 Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	42.0%	12.5%	2.3%	42.0%	1.1%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	31.1%	11.3%	5.9%	31.6%	5.9%	22.9%
	Yes	Count	82	86	32	80	16	296
		% within Q16 C2 Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	27.7%	29.1%	10.8%	27.0%	5.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	68.9%	88.7%	94.1%	68.4%	94.1%	77.1%
Total		Count	119	97	34	117	17	384

	% within Q16 C2 Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
	% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	25.261^a	4	.000
Likelihood Ratio	28.440	4	.000
N of Valid Cases	384		

a. 1 cells (10.0%) have expected count less than 5. The minimum expected count is 3.90.

A significant number of farmers earning between 200,001/= to 300,000/= and those with incomes ranging from 100,001/= to 200,000/= affirmed that they share the methods and experiences gleaned from farm and agriculture programs with other farmers. This division into distinct income groups led to the rejection of the null hypothesis, with an Asymp. Sig. of .000, indicating statistical significance below the .05 threshold.

After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices? * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q17 C3 After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?	No	Count	54	24	6	93	4	181
		% within Q17 C3 After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?	29.8%	13.3%	3.3%	51.4%	2.2%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	45.4%	24.7%	17.6%	79.5%	23.5%	47.1%
	Yes	Count	65	73	28	24	13	203

		% within Q17 C3 After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?	32.0%	36.0%	13.8%	11.8%	6.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	54.6%	75.3%	82.4%	20.5%	76.5%	52.9%
Total	Count		119	97	34	117	17	384

	% within Q17 C3 After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
	% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	84.479^a	4	.000
Likelihood Ratio	89.608	4	.000
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.01.

Farmers earning less than Tanzanian Shillings 300,000/= per year asserted that they have introduced new crops and/or methods after engaging with farm programs through media channels. However, this group of farmers is segmented into three income brackets: those earning less than 100,000/=:, those earning between 100,001/= to 200,000/=:, and those earning from 200,001/= to 300,000/=: . Among them, the majority who affirmed introducing new crops and methods belonged to the income bracket of 100,001/= to

200,000/=. This stratification led to the rejection of the null hypothesis, as evidenced by an Asymp. Sig. of .000, indicating statistical significance below the .05 threshold.

Do the new farming skills you gain from the media and practice help to increase the harvest and profit? * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q18 C4 Do the new farming skills you gain from the media and practice help to increase the harvest and profit?	No	Count	46	22	5	83	3	159
		% within Q18 C4 Do the new farming skills you gain from the media and practice help to increase the harvest and profit?						
			28.9%	13.8%	3.1%	52.2%	1.9%	100.0%
	Yes	% within Q3 What is your income level? In Tanzanian Shillings per year	38.7%	22.7%	14.7%	70.9%	17.6%	41.4%
		Count	73	75	29	34	14	225

	% within Q18 C4 Do the new farming skills you gain from the media and practice help to increase the harvest and profit?	32.4%	33.3%	12.9%	15.1%	6.2%	100.0%
	% within Q3 What is your income level? In Tanzanian Shillings per year	61.3%	77.3%	85.3%	29.1%	82.4%	58.6%
Total	Count	119	97	34	117	17	384
	% within Q18 C4 Do the new farming skills you gain from the media and practice help to increase the harvest and profit?	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%

	% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	70.401^a	4	.000
Likelihood Ratio	73.015	4	.000
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.04.

A significant number of farmers, particularly those earning an income ranging from 200,001/= to 300,000/=, and closely followed by those earning from 100,001/= to 200,000/=, affirmed that they experiment with new farm and agriculture methods broadcast through media. They attributed this to the increase in their yield and profit. This division into different income groups led to the rejection of the null hypothesis, supported by an Asymp. Sig. of .000, which falls below the .05 threshold, indicating statistical significance.

Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice? * Q3 What is your income level? In Tanzanian

Shillings per year

					Q3 What is your income level? In Tanzanian Shillings per year					Total
					100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q19	C5	Is	No	Count	29	20	6	66	3	124

there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?		% within Q19 C5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	23.4%	16.1%	4.8%	53.2%	2.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	24.4%	20.6%	17.6%	56.4%	17.6%	32.3%
	Rarely	Count	61	40	8	31	6	146

		% within Q19 C5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	41.8%	27.4%	5.5%	21.2%	4.1%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	51.3%	41.2%	23.5%	26.5%	35.3%	38.0%
	Yes	Count	29	37	20	20	8	114

		% within Q19 C5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	25.4%	32.5%	17.5%	17.5%	7.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	24.4%	38.1%	58.8%	17.1%	47.1%	29.7%
Total	Count		119	97	34	117	17	384

	% within Q19 C5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
	% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	63.789^a	8	.000
Likelihood Ratio	60.218	8	.000
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.05.

Farmers earning less than Tanzanian Shillings 300,000/= annually expressed that they rarely receive full support and follow-up actions from agricultural offices at the village,

district, region, and national levels to implement methods introduced through media. This sentiment was echoed by many farmers in the same income group who disagreed with the statement. However, when examining this across income brackets, a majority of those earning between 100,001/= to 200,000/= and those earning less than 100,000/= per year agreed with the statement. This division led to the rejection of the null hypothesis, supported by an Asymp. Sig. of .000, indicating statistical significance.

4.5c: Objective 3: To find out the communication strategies being used by various agencies to promote agriculture

Do you know any Non Government Organization out of the government which promotes agriculture development? * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
			Count					
Q20 D1 Do you know any Non Government Organization out of the government which promotes agriculture development?	Maybe	Count	40	29	10	37	3	119
		% within Q20 D1 Do you know any Non Government Organization out of the government which promotes agriculture development?	33.6%	24.4%	8.4%	31.1%	2.5%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	33.6%	29.9%	29.4%	31.6%	17.6%	31.0%
	No	Count	13	24	5	40	3	85

		% within Q20 D1 Do you know any Non Government Organization out of the government which promotes agriculture development?	15.3%	28.2%	5.9%	47.1%	3.5%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	10.9%	24.7%	14.7%	34.2%	17.6%	22.1%
	Yes	Count	66	44	19	40	11	180
		% within Q20 D1 Do you know any Non Government Organization out of the government which promotes agriculture development?	36.7%	24.4%	10.6%	22.2%	6.1%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	55.5%	45.4%	55.9%	34.2%	64.7%	46.9%
Total		Count	119	97	34	117	17	384

	% within Q20 D1 Do you know any Non Government Organization out of the government which promotes agriculture development?	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
	% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.735^a	8	.002
Likelihood Ratio	25.643	8	.001
N of Valid Cases	384		

a. 1 cells (6.7%) have expected count less than 5. The minimum expected count is 3.76.

Smallholder farmers, particularly those with an income of less than Tanzanian Shillings 300,000/=, displayed uncertainty regarding their awareness of non-governmental organizations (NGOs) promoting agricultural development, with some indicating uncertainty and others affirming their knowledge of such entities. This divergence of responses led to the rejection of the null hypothesis, supported by a p-value of 24.735^a and Asymp. Sig. of .002, signifying statistical significance.

How did you know that organization (NGO) which promotes agriculture development? *
Q3 What is your income level? In Tanzanian Shillings per year

	Q3 What is your income level? In Tanzanian Shillings per year	Total

			100,000 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q21 D2 How did you know that organization (NGO) which promotes agriculture development?		Count	0	0	0	1	0	1
		% within Q21 D2 How did you know that organization (NGO) which promotes agriculture development?	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	0.0%	0.0%	0.0%	0.9%	0.0%	0.3%
	They came to the village physically	Count	46	27	4	44	6	127
		% within Q21 D2 How did you know that organization (NGO) which promotes agriculture development?	36.2%	21.3%	3.1%	34.6%	4.7%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	38.7%	27.8%	11.8%	37.6%	35.3%	33.1%
	Through Extension/Agriculture Officers	Count	31	15	6	21	4	77
		% within Q21 D2 How did you know that organization (NGO) which promotes agriculture development?	40.3%	19.5%	7.8%	27.3%	5.2%	100.0%

		% within Q3 What is your income level? In Tanzanian Shillings per year	26.1 %	15.5%	17.6%	17.9 %	23.5 %	20.1 %
	Through Leaders	Count	9	6	5	9	2	31
		% within Q21 D2 How did you know that organization (NGO) which promotes agriculture development?	29.0 %	19.4%	16.1%	29.0 %	6.5%	100.0 %
		% within Q3 What is your income level? In Tanzanian Shillings per year	7.6%	6.2%	14.7%	7.7 %	11.8 %	8.1%
	Through Media	Count	11	20	7	7	4	49
		% within Q21 D2 How did you know that organization (NGO) which promotes agriculture development?	22.4 %	40.8%	14.3%	14.3 %	8.2%	100.0 %
		% within Q3 What is your income level? In Tanzanian Shillings per year	9.2%	20.6%	20.6%	6.0 %	23.5 %	12.8 %
	Through other people	Count	22	29	12	35	1	99

		% within Q21 D2 How did you know that organization (NGO) which promotes agriculture development?	22.2 %	29.3%	12.1%	35.4 %	1.0%	100.0 %
		% within Q3 What is your income level? In Tanzanian Shillings per year	18.5 %	29.9%	35.3%	29.9 %	5.9%	25.8 %
		Count	119	97	34	117	17	384
Total		% within Q21 D2 How did you know that organization (NGO) which promotes agriculture development?	31.0 %	25.3%	8.9%	30.5 %	4.4%	100.0 %
		% within Q3 What is your income level? In Tanzanian Shillings per year	100.0 %	100.0 %	100.0%	100.0 %	100.0 %	100.0 %

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36.777^a	20	.012
Likelihood Ratio	39.057	20	.007
N of Valid Cases	384		

a. 11 cells (36.7%) have expected count less than 5. The minimum expected count is .04.

Various methods were cited by farmers to explain how they became acquainted with non-governmental organizations (NGOs) promoting agricultural development. Most farmers reported that these NGOs physically visited their villages to introduce themselves and

outline their mission, vision, and goals. Additionally, a significant number of respondents mentioned learning about these organizations through agricultural extension services and through word-of-mouth from fellow farmers or other individuals. These observations were particularly prominent among farmers earning less than Tanzanian Shillings 300,000/=. Consequently, the null hypothesis was rejected, with an Asymp. Sig. of .012, indicating statistical significance.

Which methods used by them/NGOs to promote agriculture development-Through Agriculture Programmes on the media * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q22_1 D3.1 Which methods used by them/NGOs to promote agriculture development-Through Agriculture Programmes on the media	No (0)	Count	100	77	27	96	13	313
		% within Q22_1 D3.1 Which methods used by them/NGOs to promote agriculture development-Through Agriculture Programmes on the media	31.9%	24.6%	8.6%	30.7%	4.2%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	84.0%	79.4%	79.4%	82.1%	76.5%	81.5%
	Yes	Count	19	20	7	21	4	71

	(1)	% within Q22_1 D3.1 Which methods used by them/NGOs to promote agriculture development-Through Agriculture Programmes on the media	26.8%	28.2%	9.9%	29.6%	5.6%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	16.0%	20.6%	20.6%	17.9%	23.5%	18.5%
Total		Count	119	97	34	117	17	384
		% within Q22_1 D3.1 Which methods used by them/NGOs to promote agriculture development-Through Agriculture Programmes on the media	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.203 ^a	4	.878

Likelihood Ratio	1.194	4	.879
N of Valid Cases	384		

a. 1 cells (10.0%) have expected count less than 5.

The minimum expected count is 3.14.

Smallholder farmers asserted that non-governmental organizations (NGOs) promoting agriculture in Tanzania are not utilizing the method of broadcasting agricultural programs through the media. This sentiment was particularly prevalent among individuals with an income of less than Tanzanian Shillings 300,000/=. Consequently, the null hypothesis was deemed significant and accepted, with a p-value of 1.203^a and an Asymp. Sig. of .878, surpassing the critical value of .05.

Which methods used by them/NGOs to promote agriculture development-Distribution of Brochures and notes * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
			Count					
Q22_2 D3.2 Which methods used by them/NGOs to promote agriculture development-Distribution of Brochures and notes	No (0)	Count	109	87	29	111	16	352
		% within Q22_2 D3.2 Which methods used by them/NGOs to promote agriculture development-Distribution of Brochures and notes	31.0%	24.7%	8.2%	31.5%	4.5%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	91.6%	89.7%	85.3%	94.9%	94.1%	91.7%
	Yes(1)	Count	10	10	5	6	1	32

		% within Q22_2 D3.2 Which methods used by them/NGOs to promote agriculture development-Distribution of Brochures and notes	31.3%	31.3%	15.6%	18.8%	3.1%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	8.4%	10.3%	14.7%	5.1%	5.9%	8.3%
Total		Count	119	97	34	117	17	384
		% within Q22_2 D3.2 Which methods used by them/NGOs to promote agriculture development-Distribution of Brochures and notes	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.011 ^a	4	.404
Likelihood Ratio	3.917	4	.417
N of Valid Cases	384		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 1.42.

Smallholder farmers stated that non-governmental organizations (NGOs) promoting agriculture in Tanzania are not employing the method of distributing brochures and notes. This sentiment was predominantly expressed by individuals with an income of less than Tanzanian Shillings 300,000/=. Consequently, the null hypothesis was deemed significant and accepted, with a p-value of 4.011^a and an Asymp. Sig. of .404, surpassing the critical value of .05.

Which methods used by them/NGOs to promote agriculture development-Through Seminars * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q22_3 D3.3 Which methods used by them/NGOs to promote agriculture development- Through Seminars	No (0)	Count	37	35	13	51	9	145
		% within Q22_3 D3.3 Which methods used by them/NGOs to promote agriculture development- Through Seminars	25.5%	24.1%	9.0%	35.2%	6.2%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	31.1%	36.1%	38.2%	43.6%	52.9%	37.8%
	Yes	Count	82	62	21	66	8	239

	(1)	% within Q22_3 D3.3 Which methods used by them/NGOs to promote agriculture development-Through Seminars	34.3%	25.9%	8.8%	27.6%	3.3%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	68.9%	63.9%	61.8%	56.4%	47.1%	62.2%
Total		Count	119	97	34	117	17	384
		% within Q22_3 D3.3 Which methods used by them/NGOs to promote agriculture development-Through Seminars	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.729 ^a	4	.220
Likelihood Ratio	5.705	4	.222
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5.

The minimum expected count is 6.42.

Smallholder farmers affirmed that non-governmental organizations (NGOs) promoting agriculture in Tanzania utilize seminars to empower farmers and promote agriculture. This assertion was predominantly made by individuals with an income of less than Tanzanian Shillings 300,000/=. Consequently, the null hypothesis was deemed significant and accepted, with a p-value of 5.729^a and an Asymp. Sig. of .220, exceeding the critical value of .05.

Which methods used by them/NGOs to promote agriculture development-Through training * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q22_4 D3.4 Which methods used by them/NGOs to promote agriculture development- Through training	No (0)	Count	61	53	19	46	7	186
		% within Q22_4 D3.4 Which methods used by them/NGOs to promote agriculture development- Through training	32.8%	28.5%	10.2%	24.7%	3.8%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	51.3%	54.6%	55.9%	39.3%	41.2%	48.4%
	Yes	Count	58	44	15	71	10	198

	(1)	% within Q22_4 D3.4 Which methods used by them/NGOs to promote agriculture development-Through training	29.3%	22.2%	7.6%	35.9%	5.1%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	48.7%	45.4%	44.1%	60.7%	58.8%	51.6%
Total		Count	119	97	34	117	17	384
		% within Q22_4 D3.4 Which methods used by them/NGOs to promote agriculture development-Through training	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.884 ^a	4	.142
Likelihood Ratio	6.924	4	.140
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.23.

Smallholder farmers stated that non-governmental organizations (NGOs) promoting agriculture in Tanzania provide training to empower farmers and promote agriculture. This assertion was primarily made by individuals with an income of less than Tanzanian Shillings 300,000/=. Consequently, the null hypothesis was considered significant and accepted, with a p-value of 6.884^a and an Asymp. Sig. of .142, surpassing the critical value of .05.

Do they/NGOs offer any support for improving agriculture? * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q23 D4 Do they/NGOs offer any support for improving agriculture?	No	Count	9	6	3	28	2	48
		% within Q23 D4 Do they/NGOs offer any support for improving agriculture?	18.8%	12.5%	6.3%	58.3%	4.2%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	7.6%	6.2%	8.8%	23.9%	11.8%	12.5%
	Rarely	Count	35	38	8	31	5	117
		% within Q23 D4 Do they/NGOs offer any support for improving agriculture?	29.9%	32.5%	6.8%	26.5%	4.3%	100.0%

		% within Q3 What is your income level? In Tanzanian Shillings per year	29.4%	39.2%	23.5%	26.5%	29.4%	30.5%
	Yes	Count	75	53	23	58	10	219
		% within Q23 D4 Do they/NGOs offer any support for improving agriculture?	34.2%	24.2%	10.5%	26.5%	4.6%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	63.0%	54.6%	67.6%	49.6%	58.8%	57.0%
Total		Count	119	97	34	117	17	384
		% within Q23 D4 Do they/NGOs offer any support for improving agriculture?	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.298^a	8	.002
Likelihood Ratio	22.693	8	.004

N of Valid Cases	384		

a. 2 cells (13.3%) have expected count less than 5.

The minimum expected count is 2.13.

Farmers with an income of less than 300,000/= per year affirmed that non-governmental organizations (NGOs) involved in agricultural promotion provide support to smallholder farmers. However, the majority within this income bracket also expressed uncertainty regarding the frequency of this support. Consequently, the null hypothesis was rejected due to its Asymp. Sig. of .002, falling below the .05 threshold.

Which support is provided by the NGOs for improving agriculture? * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q24 D5 Which support is provided by the NGOs for improving agriculture?	Cash loan	Count	3	2	1	1	1	8
		% within Q24 D5 Which support is provided by the NGOs for improving agriculture?	37.5%	25.0%	12.5%	12.5%	12.5%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	2.5%	2.1%	2.9%	0.9%	5.9%	2.1%
	Equipments/Material	Count	17	36	11	15	3	82

	s loan	% within Q24 D5 Which support is provided by the NGOs for improving agriculture?	20.7%	43.9%	13.4%	18.3%	3.7%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	14.3%	37.1%	32.4%	12.8%	17.6%	21.4%
	Providing manure	Count	50	17	6	50	4	127
		% within Q24 D5 Which support is provided by the NGOs for improving agriculture?	39.4%	13.4%	4.7%	39.4%	3.1%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	42.0%	17.5%	17.6%	42.7%	23.5%	33.1%
		Count	49	42	16	51	9	167
	Providing seeds	% within Q24 D5 Which support is provided by the NGOs for improving agriculture?	29.3%	25.1%	9.6%	30.5%	5.4%	100.0%

		% within Q3 What is your income level? In Tanzanian Shillings per year	41.2%	43.3%	47.1%	43.6%	52.9 %	43.5 %
Total		Count	119	97	34	117	17	384
		% within Q24 D5 Which support is provided by the NGOs for improving agriculture?	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	100.0 %	100.0%	100.0%	100.0%	100.0 %	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	39.127^a	12	.000
Likelihood Ratio	39.192	12	.000
N of Valid Cases	384		

a. 6 cells (30.0%) have expected count less than 5. The minimum expected count is .35.

The feedback from smallholder farmers earning less than 300,000/= Tanzanian shillings per year indicated that non-governmental organizations promoting agriculture provide support in the form of seeds and manure. This resulted in the rejection of the null hypothesis, with a p-value of 39.127^a and an Asym. Sig. of .000, both falling below the .05 threshold.

Do these supports help you in improving the agriculture? * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q25 D6 Do these supports help you in improving the agriculture?	Agree	Count	85	40	16	56	13	210
		% within Q25 D6 Do these supports help you in improving the agriculture?	40.5%	19.0%	7.6%	26.7%	6.2%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	71.4%	41.2%	47.1%	47.9%	76.5%	54.7%
	Disagree	Count	7	4	3	24	0	38
		% within Q25 D6 Do these supports help you in improving the agriculture?	18.4%	10.5%	7.9%	63.2%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	5.9%	4.1%	8.8%	20.5%	0.0%	9.9%
		Neutral	Count	22	46	13	28	4

		% within Q25 D6 Do these supports help you in improving the agriculture?	19.5%	40.7%	11.5%	24.8%	3.5%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	18.5%	47.4%	38.2%	23.9%	23.5%	29.4%
	Strong agree	Count	4	4	2	1	0	11
		% within Q25 D6 Do these supports help you in improving the agriculture?	36.4%	36.4%	18.2%	9.1%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	3.4%	4.1%	5.9%	0.9%	0.0%	2.9%
		Count	1	3	0	8	0	12
	Strongly disagree	% within Q25 D6 Do these supports help you in improving the agriculture?	8.3%	25.0%	0.0%	66.7%	0.0%	100.0%

		% within Q3 What is your income level? In Tanzanian Shillings per year	0.8%	3.1%	0.0%	6.8%	0.0%	3.1%
Total		Count	119	97	34	117	17	384
		% within Q25 D6 Do these supports help you in improving the agriculture?	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	62.804^a	16	.000
Likelihood Ratio	63.198	16	.000
N of Valid Cases	384		

a. 12 cells (48.0%) have expected count less than 5. The minimum expected count is .49.

The group of farmers earning less than 300,000/= Tanzanian shillings acknowledged that the support provided by non-governmental organizations promoting agriculture contributes to their agricultural improvement. However, a majority within the same income bracket expressed uncertainty about the effectiveness of this support. This disparity led to the rejection of the null hypothesis, with an Asymp.sig of .000, falling below the .05 threshold.

4.5d: Objective 4: To examine the role of media in the development of the rural areas in Tanzania.

Media brings the understanding knowledge concern rural development * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q26 E1 Media brings the understanding knowledge concern rural development	Agree	Count	72	42	18	44	12	188
		% within Q26 E1 Media brings the understanding knowledge concern rural development	38.3%	22.3%	9.6%	23.4%	6.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	60.5%	43.3%	52.9%	37.6%	70.6%	49.0%
	Disagree	Count	5	2	1	13	0	21
		% within Q26 E1 Media brings the understanding knowledge concern rural development	23.8%	9.5%	4.8%	61.9%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	4.2%	2.1%	2.9%	11.1%	0.0%	5.5%
	Neutral	Count	34	49	14	51	5	153

		% within Q26 E1 Media brings the understanding knowledge concern rural development	22.2%	32.0%	9.2%	33.3%	3.3%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	28.6%	50.5%	41.2%	43.6%	29.4%	39.8%
	Strong agree	Count	7	2	1	3	0	13
		% within Q26 E1 Media brings the understanding knowledge concern rural development	53.8%	15.4%	7.7%	23.1%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	5.9%	2.1%	2.9%	2.6%	0.0%	3.4%
	Strong disagree	Count	1	2	0	6	0	9
		% within Q26 E1 Media brings the understanding knowledge concern rural development	11.1%	22.2%	0.0%	66.7%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	0.8%	2.1%	0.0%	5.1%	0.0%	2.3%
	Total		Count	119	97	34	117	17

	% within Q26 E1 Media brings the understanding knowledge concern rural development	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
	% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36.462^a	16	.002
Likelihood Ratio	37.538	16	.002
N of Valid Cases	384		

a. 12 cells (48.0%) have expected count less than 5. The minimum expected count is .40.

The group of smallholder farmers earning less than 300,000/= Tanzanian shillings concurred that the media raises awareness about rural development. However, a majority within the same income bracket expressed uncertainty regarding whether the media indeed fulfills this role. This disparity led to the rejection of the null hypothesis, with an Asymp.sig of .002, falling below the .05 threshold.

Media presents the information about the government/ NGOs policies regarding rural development * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q27 E2	Agree	Count	47	34	13	35	8	137

Media presents the information about the government/ NGOs policies regarding rural development		% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	34.3%	24.8%	9.5%	25.5%	5.8%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	39.5%	35.1%	38.2%	29.9%	47.1%	35.7%
	Disagree	Count	2	1	1	16	1	21
		% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	9.5%	4.8%	4.8%	76.2%	4.8%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	1.7%	1.0%	2.9%	13.7%	5.9%	5.5%
	Neutral							
		Count	66	59	19	62	8	214

		% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	30.8%	27.6%	8.9%	29.0%	3.7%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	55.5%	60.8%	55.9%	53.0%	47.1%	55.7%
	Strong agree	Count	3	2	1	2	0	8
		% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	37.5%	25.0%	12.5%	25.0%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	2.5%	2.1%	2.9%	1.7%	0.0%	2.1%
		Count	1	1	0	2	0	4
	Strong	Count	1	1	0	2	0	4

	disagree	% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	25.0%	25.0%	0.0%	50.0%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	0.8%	1.0%	0.0%	1.7%	0.0%	1.0%
Total	Count		119	97	34	117	17	384
	% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development		31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
	% within Q3 What is your income level? In Tanzanian Shillings per year		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.273^a	16	.050
Likelihood Ratio	25.807	16	.057
N of Valid Cases	384		

a. 12 cells (48.0%) have expected count less than 5. The minimum expected count is .18.

Most farmers, especially small-scale farmers earning less than 300,000/= Tanzanian shillings annually, are uncertain whether the media disseminates information about government/NGOs policies concerning rural development. This uncertainty led to a p-value of 26.273^a and Asymp. Sig of .052, equal to (=) .05, signifying the significance and acceptance of the null hypothesis.

Media presents the information about the development budget for rural areas * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q28 E3 Media presents the information about the development budget for rural areas	Agree	Count	36	33	17	27	9	122
		% within Q28 E3 Media presents the information about the development budget for rural areas	29.5%	27.0%	13.9%	22.1%	7.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	30.3%	34.0%	50.0%	23.1%	52.9%	31.8%
	Disagree	Count	5	3	3	16	4	31

		% within Q28 E3 Media presents the information about the development budget for rural areas	16.1%	9.7%	9.7%	51.6%	12.9%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	4.2%	3.1%	8.8%	13.7%	23.5%	8.1%
	Neutral	Count	78	59	14	68	4	223
		% within Q28 E3 Media presents the information about the development budget for rural areas	35.0%	26.5%	6.3%	30.5%	1.8%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	65.5%	60.8%	41.2%	58.1%	23.5%	58.1%
	Strong agree	Count	0	1	0	3	0	4
		% within Q28 E3 Media presents the information about the development budget for rural areas	0.0%	25.0%	0.0%	75.0%	0.0%	100.0%

		% within Q3 What is your income level? In Tanzanian Shillings per year	0.0%	1.0%	0.0%	2.6%	0.0%	1.0%
	Strong disagree	Count	0	1	0	3	0	4
		% within Q28 E3 Media presents the information about the development budget for rural areas	0.0%	25.0%	0.0%	75.0%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	0.0%	1.0%	0.0%	2.6%	0.0%	1.0%
Total		Count	119	97	34	117	17	384
		% within Q28 E3 Media presents the information about the development budget for rural areas	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square	38.955^a	16	.001

Likelihood Ratio	40.375	16	.001
N of Valid Cases	384		

a. 12 cells (48.0%) have expected count less than 5. The minimum expected count is .18.

Regarding whether the media presents information about the development budget for rural areas, the majority of farmers expressed uncertainty, while others agreed with the statement. Notably, all responses were from the same group of farmers earning less than 300,000/= Tanzanian shillings annually. The null hypothesis is deemed insignificant due to a p-value of 38.955^a and Asymp. Sig of .001, which is smaller than (<) .05.

Media works well with the participatory approaches/ communication and developmental opportunities * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	Agree	Count	55	34	16	50	6	161
		% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	34.2%	21.1%	9.9%	31.1%	3.7%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	46.2%	35.1%	47.1%	42.7%	35.3%	41.9%
	Disagree	Count	3	2	2	14	0	21

		% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	14.3%	9.5%	9.5%	66.7%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	2.5%	2.1%	5.9%	12.0%	0.0%	5.5%
	Neutral	Count	59	59	16	49	11	194
		% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	30.4%	30.4%	8.2%	25.3%	5.7%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	49.6%	60.8%	47.1%	41.9%	64.7%	50.5%
		Count	2	0	0	3	0	5
	Strong agree	% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	40.0%	0.0%	0.0%	60.0%	0.0%	100.0%

		% within Q3 What is your income level? In Tanzanian Shillings per year	1.7%	0.0%	0.0%	2.6%	0.0%	1.3%
	Strong disagree	Count	0	2	0	1	0	3
		% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	0.0%	66.7%	0.0%	33.3%	0.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	0.0%	2.1%	0.0%	0.9%	0.0%	0.8%
Total	Count		119	97	34	117	17	384
	% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities		31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
	% within Q3 What is your income level? In Tanzanian Shillings per year		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.355^a	16	.038
Likelihood Ratio	29.367	16	.022

N of Valid Cases	384		

a. 12 cells (48.0%) have expected count less than 5. The minimum expected count is .13.

The feedback on whether the media effectively utilizes participatory approaches, communication, and developmental opportunities indicates a significant number of farmers expressing uncertainty, while the majority agree with the statement. These responses were obtained from the same group of farmers earning less than 300,000/= Tanzanian shillings annually. Consequently, the null hypothesis is rejected, as it is not deemed significant due to a p-value of 27.355^a and an Asymp. Sig of .038, which is smaller than (<) .05.

Media take the rural development projects to the doorsteps of the people * Q3 What is your income level? In Tanzanian Shillings per year

			Q3 What is your income level? In Tanzanian Shillings per year					Total
			100,001 – 200,000	200,001 – 300,000	300,001 – 400,000	Less than 100,000	More than 400,000	
Q30 E5 Media take the rural development projects to the doorsteps of the people	Agree	Count	49	27	17	33	7	133
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	36.8%	20.3%	12.8%	24.8%	5.3%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	41.2%	27.8%	50.0%	28.2%	41.2%	34.6%
	Disagree	Count	10	3	2	17	1	33

		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	30.3%	9.1%	6.1%	51.5%	3.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	8.4%	3.1%	5.9%	14.5%	5.9%	8.6%
	Neutral	Count	58	66	15	60	8	207
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	28.0%	31.9%	7.2%	29.0%	3.9%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	48.7%	68.0%	44.1%	51.3%	47.1%	53.9%
	Strong agree	Count	2	0	0	5	0	7
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	28.6%	0.0%	0.0%	71.4%	0.0%	100.0%

		% within Q3 What is your income level? In Tanzanian Shillings per year	1.7%	0.0%	0.0%	4.3%	0.0%	1.8%
	Strong disagree	Count	0	1	0	2	1	4
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	0.0%	25.0%	0.0%	50.0%	25.0%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	0.0%	1.0%	0.0%	1.7%	5.9%	1.0%
Total		Count	119	97	34	117	17	384
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	31.0%	25.3%	8.9%	30.5%	4.4%	100.0%
		% within Q3 What is your income level? In Tanzanian Shillings per year	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square	32.914^a	16	.008

Likelihood Ratio	33.996	16	.005
N of Valid Cases	384		

a. 12 cells (48.0%) have expected count less than 5. The minimum expected count is .18.

A significant number of farmers within the group earning less than 300,000/= Tanzanian shillings annually expressed uncertainty regarding whether the media effectively brings rural development projects to the people's doorsteps. However, the majority of respondents agreed with the statement. As such, the null hypothesis is rejected, and it is deemed not significant due to a p-value of 32.914^a and an Asymp. Sig of .008, which is smaller than (<) .05.

4.6a: Objective 1: To a study the role of media in inculcating, adaptation of innovation and barriers in agriculture among small holder famers of Tanzania.

What is your source of media which you use in accessing agriculture information? *

Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q9 B1 What is your source of media which you use in accessing agriculture information?	Newspaper	Count	1	0	1	1	3
		% within Q9 B1 What is your source of media which you use in accessing agriculture information?	33.3%	0.0%	33.3%	33.3%	100.0%
		% within Q4 Farming experience years	1.2%	0.0%	1.4%	0.6%	0.8%
	Radio	Count	67	47	56	135	305

		% within Q9 B1 What is your source of media which you use in accessing agriculture information?	22.0%	15.4%	18.4%	44.3%	100.0%
		% within Q4 Farming experience years	78.8%	82.5%	77.8%	79.4%	79.4%
	Television	Count	16	10	15	34	75
		% within Q9 B1 What is your source of media which you use in accessing agriculture information?	21.3%	13.3%	20.0%	45.3%	100.0%
		% within Q4 Farming experience years	18.8%	17.5%	20.8%	20.0%	19.5%
	What's App	Count	1	0	0	0	1
		% within Q9 B1 What is your source of media which you use in accessing agriculture information?	100.0%	0.0%	0.0%	0.0%	100.0%
		% within Q4 Farming experience years	1.2%	0.0%	0.0%	0.0%	0.3%
	Total		Count	85	57	72	170

	% within Q9 B1 What is your source of media which you use in accessing agriculture information?	22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.867 ^a	9	.846
Likelihood Ratio	4.733	9	.857
N of Valid Cases	384		

a. 8 cells (50.0%) have expected count less than 5. The minimum expected count is .15.

The majority of small-scale farmers, ranging from 0 to over 15 years of farming experience, indicated radio as their preferred source of media for accessing agricultural information and knowledge. Consequently, the null hypothesis is considered significant and accepted, given the p-value of 4.867^a and Asymp. Sig of .846, which exceeds (>) .05.

The media which broadcasts the more innovative farming methods.* Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q10 B2 The media which broadcasts the more innovative farming methods.	Newspaper	Count	2	0	1	1	4
		% within Q10 B2 The media which broadcasts the more innovative farming methods.	50.0%	0.0%	25.0%	25.0%	100.0%

		% within Q4 Farming experience years	2.4%	0.0%	1.4%	0.6%	1.0%
	Radio	Count	66	48	52	133	299
		% within Q10 B2 The media which broadcasts the more innovative farming methods.	22.1%	16.1%	17.4 %	44.5%	100.0%
		% within Q4 Farming experience years	77.6%	84.2%	72.2 %	78.2%	77.9%
	Televisio n	Count	16	9	19	36	80
		% within Q10 B2 The media which broadcasts the more innovative farming methods.	20.0%	11.3%	23.8 %	45.0%	100.0%
		% within Q4 Farming experience years	18.8%	15.8%	26.4 %	21.2%	20.8%
	What's App	Count	1	0	0	0	1
		% within Q10 B2 The media which broadcasts the more innovative farming methods.	100.0 %	0.0%	0.0%	0.0%	100.0%
		% within Q4 Farming experience years	1.2%	0.0%	0.0%	0.0%	0.3%
Total		Count	85	57	72	170	384
	% within Q10 B2 The media which broadcasts the more innovative farming methods.	22.1%	14.8%	18.8 %	44.3%	100.0%	
	% within Q4 Farming experience years	100.0 %	100.0%	100.0 %	100.0%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square	8.463 ^a	9	.488
Likelihood Ratio	8.223	9	.512
N of Valid Cases	384		

a. 8 cells (50.0%) have expected count less than 5. The minimum expected count is .15.

The majority of small-scale farmers, particularly those with farming experience ranging from zero to over 15 years, identified radio as the primary media platform for broadcasting innovative farming methods. Consequently, the null hypothesis is considered significant and accepted, supported by a p-value of 8.463^a and an Asymp.sig of .488, both exceeding (>) .05.

What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media? * Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q11 B3 What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	Not relevant	Count	11	2	2	20	35
		% within Q11 B3 What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	31.4%	5.7%	5.7%	57.1%	100.0%
		% within Q4 Farming experience years	12.9%	3.5%	2.8%	11.8%	9.1%
	Relevant	Count	65	44	60	122	291
		% within Q11 B3 What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	22.3%	15.1%	20.6%	41.9%	100.0%

		% within Q4 Farming experience years	76.5%	77.2%	83.3%	71.8%	75.8%
	Very relevant	Count	9	11	10	28	58
		% within Q11 B3 What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	15.5%	19.0%	17.2%	48.3%	100.0%
		% within Q4 Farming experience years	10.6%	19.3%	13.9%	16.5%	15.1%
Total		Count	85	57	72	170	384
		% within Q11 B3 What is an occurrence of the relevance of agriculture knowledge distribution to farmers' gain through the mass media?	22.1%	14.8%	18.8%	44.3%	100.0%
		% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.829 ^a	6	.094
Likelihood Ratio	12.432	6	.053
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5.

The minimum expected count is 5.20.

The frequency distribution of the relevance of agricultural information and knowledge gained by farmers through mass media is deemed significant and accepted, based on the findings from farmers with farming experience ranging from zero to over 15 years. The null hypothesis is supported by a p-value of 10.829^a and an Asymp. Sig of .094, both exceeding the threshold of (>) .05.

Do these media sources meet the farmers' needs?* Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q12 B4 Do these media sources meet the farmers' needs?	No	Count	26	7	15	40	88
		% within Q12 B4 Do these media sources meet the farmers' needs?	29.5%	8.0%	17.0%	45.5%	100.0%
		% within Q4 Farming experience years	30.6%	12.3%	20.8%	23.5%	22.9%
	Yes	Count	59	50	57	130	296
		% within Q12 B4 Do these media sources meet the farmers' needs?	19.9%	16.9%	19.3%	43.9%	100.0%
		% within Q4 Farming experience years	69.4%	87.7%	79.2%	76.5%	77.1%
Total		Count	85	57	72	170	384
		% within Q12 B4 Do these media sources meet the farmers' needs?	22.1%	14.8%	18.8%	44.3%	100.0%
		% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.695 ^a	3	.082
Likelihood Ratio	7.054	3	.070
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.06.

The majority of farmers with farming experience ranging from zero to over 15 years acknowledged that the mass media they utilize for agricultural information fulfills their informational requirements. Consequently, the null hypothesis is deemed significant and accepted, as evidenced by the chi-square test results displaying a p-value of 6.695^a and an Asymp. Sig of .082, surpassing the (>) .05 threshold.

The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?* Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q13 B5 The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?	No	Count	9	4	6	20	39
		% within Q13 B5 The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?	23.1%	10.3%	15.4%	51.3%	100.0%
		% within Q4 Farming experience years	10.6%	7.0%	8.3%	11.8%	10.2%
	Yes	Count	76	53	66	150	345

	% within Q13 B5 The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?	22.0%	15.4%	19.1%	43.5%	100.0%
	% within Q4 Farming experience years	89.4%	93.0%	91.7%	88.2%	89.8%
Total	Count	85	57	72	170	384
	% within Q13 B5 The agricultural and farming communication with media can help to boost the production and adoption of the new farming practices?	22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.377 ^a	3	.711
Likelihood Ratio	1.438	3	.697
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5.

The minimum expected count is 5.79.

Farmers with farming experience ranging from zero to over 15 years believe that farm/agriculture communication through media can enhance agricultural production and the adoption of new farming practices. The null hypothesis is considered significant and accepted, supported by a p-value of 1.377^a and an Asymp. Sig of .711, which exceeds the (>) .05 threshold.

What is the challenge which farmers are facing during accessing the agricultural information from the mass media?* Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	Highly cost of purchasing and maintain media source	Count	25	20	31	67	143
		% within Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	17.5%	14.0%	21.7%	46.9%	100.0%
		% within Q4 Farming experience years	29.4%	35.1%	43.1%	39.4%	37.2%
	Inability to	Count	4	3	4	16	27

	write and read	% within Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	14.8%	11.1%	14.8%	59.3%	100.0%
		% within Q4 Farming experience years	4.7%	5.3%	5.6%	9.4%	7.0%
	Inadequate feedback mechanism	Count	22	18	8	33	81
		% within Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	27.2%	22.2%	9.9%	40.7%	100.0%
		% within Q4 Farming experience years	25.9%	31.6%	11.1%	19.4%	21.1%
	Poor internet	Count	6	2	1	0	9

	Connectivity	% within Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	66.7%	22.2%	11.1%	0.0%	100.0%
		% within Q4 Farming experience years	7.1%	3.5%	1.4%	0.0%	2.3%
	Poor power supply	Count	5	1	5	11	22
		% within Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	22.7%	4.5%	22.7%	50.0%	100.0%
		% within Q4 Farming experience years	5.9%	1.8%	6.9%	6.5%	5.7%
	Poor signal	Count	23	13	23	43	102

		% within Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?	22.5%	12.7%	22.5%	42.2%	100.0%
		% within Q4 Farming experience years	27.1%	22.8%	31.9%	25.3%	26.6%
Total	Count		85	57	72	170	384
	% within Q14 B6 What is the challenge which farmers are facing during accessing the agricultural information from the mass media?		22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years		100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	28.143^a	15	.021
Likelihood Ratio	30.161	15	.011
N of Valid Cases	384		

a. 8 cells (33.3%) have expected count less than 5. The minimum expected count is 1.34.

The challenges faced by farmers in accessing agricultural information through mass media, as reported by smallholder farmers with farming experience ranging from zero to over 15 years, include the high cost of purchasing and maintaining media sources, as well as poor signals. This diversity in reported challenges within the same group led to the rejection of the null hypothesis, supported by a p-value of 28.143^a and an Asymp. Sig of .021, which falls below the (<) .05 threshold.

4.6b: Objective 2: To explore the changes in agriculture practices in rural areas of Tanzania through media.

Do you get the better harvest after applying the farming practices from the media?*

Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q15 C1 Do you get the better harvest after applying the farming practices from the media?	No	Count	28	14	23	53	118
		% within Q15 C1					
		Do you get the better harvest after applying the farming practices from the media?	23.7%	11.9%	19.5%	44.9%	100.0%
	Yes	% within Q4 Farming experience years	32.9%	24.6%	31.9%	31.2%	30.7%
		Count	57	43	49	117	266

	% within Q15 C1 Do you get the better harvest after applying the farming practices from the media?	21.4%	16.2%	18.4%	44.0%	100.0%
	% within Q4 Farming experience years	67.1%	75.4%	68.1%	68.8%	69.3%
Total	Count	85	57	72	170	384
	% within Q15 C1 Do you get the better harvest after applying the farming practices from the media?	22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.280 ^a	3	.734
Likelihood Ratio	1.321	3	.724
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 17.52.

Most farmers with farming experience ranging from 0 to over 15 years affirmed that they achieve better harvests after implementing farming practices learned through media channels. The null hypothesis is deemed significant and accepted, as evidenced by a p-value of 1.280^a and an Asymp. Sig of .734, surpassing the (>) .05 threshold.

Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?* Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q16 C2 Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	No	Count	18	9	16	45	88
		% within Q16 C2 Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	20.5%	10.2%	18.2%	51.1%	100.0%
		% within Q4 Farming experience years	21.2%	15.8%	22.2%	26.5%	22.9%
	Yes	Count	67	48	56	125	296
		% within Q16 C2 Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	22.6%	16.2%	18.9%	42.2%	100.0%
		% within Q4 Farming experience years	78.8%	84.2%	77.8%	73.5%	77.1%
Total		Count	85	57	72	170	384

	% within Q16 C2 Have you ever share with your fellow farmers about the methods and skills you get from the agriculture programs in the media?	22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.020 ^a	3	.389
Likelihood Ratio	3.127	3	.372
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.06.

The null hypothesis holds significance and is accepted, supported by a p-value of 3.020^a and an Asymp.sig of .389, both exceeding the (>) .05 threshold. Additionally, smallholder farmers with experience ranging from zero to over 15 years confirmed that they indeed offer advice on methods and experiences gleaned from agricultural programs to their peers.

After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices? *

Q4Farming experience years

				Q4 Farming experience years				Total
				0-5 years	11-15 years	6-10 years	Above 15 years	
Q17	After	No	Count	44	21	34	82	181

watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?		% within Q17 C3 After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?	24.3%	11.6%	18.8%	45.3%	100.0%
		% within Q4 Farming experience years	51.8%	36.8%	47.2%	48.2%	47.1%
	Yes	Count	41	36	38	88	203
		% within Q17 C3 After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?	20.2%	17.7%	18.7%	43.3%	100.0%
		% within Q4 Farming experience years	48.2%	63.2%	52.8%	51.8%	52.9%
Total		Count	85	57	72	170	384

	% within Q17 C3 After watching and listening the agriculture programs through media, have you managed to introduce any new crops or methods of farming practices?	22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.237 ^a	3	.356
Likelihood Ratio	3.273	3	.351
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 26.87.

The null hypothesis is deemed significant and accepted, supported by a p-value of 3.237^a and an Asymp. Sig of .356, both surpassing the critical value of .05. Moreover, the majority of farmers, particularly those with farming experience ranging from zero to over 15 years, reported introducing new crops and/or methods after engaging with farm programs through viewing and/or listening.

Do the new farming skills you gain from the media and practice help to increase the harvest and profit?

*** Q4 Farming experience years**

					Q4 Farming experience years				Total
					0-5 years	11-15 years	6-10 years	Above 15 years	
Q18	C4	Do the	No	Count	40	20	32	67	159

new farming skills you gain from the media and practice help to increase the harvest and profit?		% within Q18 C4 Do the new farming skills you gain from the media and practice help to increase the harvest and profit?	25.2%	12.6%	20.1%	42.1%	100.0%
		% within Q4 Farming experience years	47.1%	35.1%	44.4%	39.4%	41.4%
	Yes	Count	45	37	40	103	225
		% within Q18 C4 Do the new farming skills you gain from the media and practice help to increase the harvest and profit?	20.0%	16.4%	17.8%	45.8%	100.0%
		% within Q4 Farming experience years	52.9%	64.9%	55.6%	60.6%	58.6%
Total	Count		85	57	72	170	384
	% within Q18 C4 Do the new farming skills you gain from the media and practice help to increase the harvest and profit?		22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years		100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)

Pearson Chi-Square	2.610 ^a	3	.456
Likelihood Ratio	2.614	3	.455
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 23.60.

Many smallholder farmers with farming experience ranging from zero to over fifteen years engage in experimenting with new farm/agriculture methods broadcasted through media. They believe that these new farming practices, disseminated via media channels, contribute to increasing their yield and profit. Additionally, the null hypothesis is deemed significant and accepted, supported by an Asymp. Sig of .456, which surpasses the threshold of .05.

Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?* Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q19 C5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	No	Count	28	13	18	65	124
		% within Q19 C5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	22.6%	10.5%	14.5%	52.4%	100.0%
		% within Q4 Farming experience years	32.9%	22.8%	25.0%	38.2%	32.3%
	Rarely	Count	34	26	30	56	146

		% within Q19 C5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	23.3%	17.8%	20.5%	38.4%	100.0%
		% within Q4 Farming experience years	40.0%	45.6%	41.7%	32.9%	38.0%
	Yes	Count	23	18	24	49	114
		% within Q19 C5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	20.2%	15.8%	21.1%	43.0%	100.0%
		% within Q4 Farming experience years	27.1%	31.6%	33.3%	28.8%	29.7%
Total		Count	85	57	72	170	384

	% within Q19 C5 Is there any support or follow up you receive from the agriculture offices from any level, such as village, district and national for bringing the farming skills introduced through media into practice?	22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.633 ^a	6	.266
Likelihood Ratio	7.799	6	.253
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.92.

The null hypothesis is deemed significant and accepted based on the obtained results, indicating a p-value of 7.633^a and an Asymp. Sig of .266. These values exceed the critical threshold of .05. Furthermore, the majority of farmers with farming experience spanning from zero to over fifteen years affirmed receiving full support and follow-up actions from farm/agriculture offices at various administrative levels, including village, district, region, and national levels, to implement the methods introduced by media into practice.

4.6c: Objective 3: To find out the communication strategies being used by various agencies to promote agriculture.

Do you know any Non Government Organization out of the government which promotes agriculture development? * Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q20 D1 Do you know any Non Government Organization out of the government which promotes agriculture development?	Maybe	Count	25	24	21	49	119
		% within Q20 D1 Do you know any Non Government Organization out of the government which promotes agriculture development?	21.0%	20.2%	17.6%	41.2%	100.0%
		% within Q4 Farming experience years	29.4%	42.1%	29.2%	28.8%	31.0%
	No	Count	20	10	19	36	85
		% within Q20 D1 Do you know any Non Government Organization out of the government which promotes agriculture development?	23.5%	11.8%	22.4%	42.4%	100.0%
		% within Q4 Farming experience years	23.5%	17.5%	26.4%	21.2%	22.1%
		Yes	Count	40	23	32	85

		% within Q20 D1 Do you know any Non Government Organization out of the government which promotes agriculture development?	22.2%	12.8%	17.8%	47.2%	100.0%
		% within Q4 Farming experience years	47.1%	40.4%	44.4%	50.0%	46.9%
Total	Count		85	57	72	170	384
	% within Q20 D1 Do you know any Non Government Organization out of the government which promotes agriculture development?		22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years		100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.915 ^a	6	.555
Likelihood Ratio	4.720	6	.580
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5.

The minimum expected count is 12.62.

The null hypothesis is considered significant and accepted as indicated by its Asymp. Sig of .555, which exceeds the critical value of .05. This conclusion is based on the responses

of the majority of farmers with farming experience ranging from zero to over fifteen years, affirming their familiarity with Non-Governmental Organizations (NGOs) that operate independently of the government and are involved in promoting agricultural development.

How did you know that organization (NGO) which promotes agriculture development? * Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q21 D2 How did you know that organization (NGO) which promotes agriculture development?		Count	1	0	0	0	1
		% within Q21 D2 How did you know that organization (NGO) which promotes agriculture development?	100.0%	0.0%	0.0%	0.0%	100.0%
		% within Q4 Farming experience years	1.2%	0.0%	0.0%	0.0%	0.3%
	They came to the village physically	Count	25	16	25	61	127
		% within Q21 D2 How did you know that organization (NGO) which promotes agriculture development?	19.7%	12.6%	19.7%	48.0%	100.0%
		% within Q4 Farming experience years	29.4%	28.1%	34.7%	35.9%	33.1%
	Through	Count	16	17	19	25	77

	Extension/Agriculture Officers	% within Q21 D2 How did you know that organization (NGO) which promotes agriculture development?	20.8%	22.1%	24.7%	32.5%	100.0%
		% within Q4 Farming experience years	18.8%	29.8%	26.4%	14.7%	20.1%
	Through Leaders	Count	8	6	8	9	31
		% within Q21 D2 How did you know that organization (NGO) which promotes agriculture development?	25.8%	19.4%	25.8%	29.0%	100.0%
		% within Q4 Farming experience years	9.4%	10.5%	11.1%	5.3%	8.1%
	Through Media	Count	14	5	6	24	49
		% within Q21 D2 How did you know that organization (NGO) which promotes agriculture development?	28.6%	10.2%	12.2%	49.0%	100.0%
		% within Q4 Farming experience years	16.5%	8.8%	8.3%	14.1%	12.8%
	Through other people	Count	21	13	14	51	99

		% within Q21 D2 How did you know that organization (NGO) which promotes agriculture development?	21.2%	13.1%	14.1%	51.5%	100.0%
		% within Q4 Farming experience years	24.7%	22.8%	19.4%	30.0%	25.8%
Total	Count		85	57	72	170	384
	% within Q21 D2 How did you know that organization (NGO) which promotes agriculture development?		22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years		100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.973 ^a	15	.173
Likelihood Ratio	19.564	15	.189
N of Valid Cases	384		

a. 5 cells (20.8%) have expected count less than 5. The minimum expected count is .15.

Farmers acknowledged that they became acquainted with the non-governmental organizations (NGOs) engaged in promoting agriculture because these organizations physically visited their areas and introduced themselves along with their objectives and main goals. This feedback was provided by smallholder farmers with farming experience ranging from zero to over 15 years. The null hypothesis is deemed significant and

accepted, supported by a p-value of 19.973^a and an Asymp. Sig of .173, which exceeds the threshold of .05.

**Which methods used by them/NGOs to promote agriculture development? -
Through Agriculture Programmes on the media * Q4 Farming experience years**

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q22_1 D3.1 Which methods used by them/NGOs to promote agriculture development?- Through Agriculture Programmes on the media	No (0)	Count	62	48	61	142	313
		% within Q22_1 D3.1 Which methods used by them/NGOs to promote agriculture development?- Through Agriculture Programmes on the media	19.8%	15.3%	19.5%	45.4%	100.0%
		% within Q4 Farming experience years	72.9%	84.2%	84.7%	83.5%	81.5%
	Yes (1)	Count	23	9	11	28	71
		% within Q22_1 D3.1 Which methods used by them/NGOs to promote agriculture development?- Through Agriculture Programmes on the media	32.4%	12.7%	15.5%	39.4%	100.0%
		% within Q4 Farming experience years	27.1%	15.8%	15.3%	16.5%	18.5%
Total		Count	85	57	72	170	384

	% within Q22_1 D3.1 Which methods used by them/NGOs to promote agriculture development? - Through Agriculture Programmes on the media	22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.370 ^a	3	.147
Likelihood Ratio	5.021	3	.170
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5.

The minimum expected count is 10.54.

The majority of farmers with farming experience ranging from zero to over 15 years acknowledged that the methods employed by non-governmental organizations (NGOs) to promote agricultural development do not involve agricultural programs in the media. Given that the Asymp. Sig of .147 is greater than the threshold of .05, the null hypothesis is deemed significant and accepted, as indicated in the chi-square table above.

Which methods used by them/NGOs to promote agriculture development? - Distribution of Brochures and notes * Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q22_2 D3.2	No	Count	76	50	67	159	352

Which methods used by them/NGOs to promote agriculture development? - Distribution of Brochures and notes	(0)	% within Q22_2 D3.2 Which methods used by them/NGOs to promote agriculture development? - Distribution of Brochures and notes	21.6%	14.2%	19.0%	45.2%	100.0%
		% within Q4 Farming experience years	89.4%	87.7%	93.1%	93.5%	91.7%
	Yes (1)	Count	9	7	5	11	32
		% within Q22_2 D3.2 Which methods used by them/NGOs to promote agriculture development? - Distribution of Brochures and notes	28.1%	21.9%	15.6%	34.4%	100.0%
		% within Q4 Farming experience years	10.6%	12.3%	6.9%	6.5%	8.3%
Total	Count		85	57	72	170	384
	% within Q22_2 D3.2 Which methods used by them/NGOs to promote agriculture development? - Distribution of Brochures and notes		22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years		100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.682 ^a	3	.443
Likelihood Ratio	2.575	3	.462
N of Valid Cases	384		

a. 1 cells (12.5%) have expected count less than 5. The minimum expected count is 4.75.

The consensus among farmers with farming experience ranging from zero to over 15 years is that non-governmental organizations (NGOs) promoting agricultural development do not utilize the distribution of brochures and notes as a method. With an Asymp. Sig of .443 exceeding the threshold of .05, the null hypothesis is deemed significant and accepted, as indicated in the chi-square table provided above.

Which methods used by them/NGOs to promote agriculture development? - Through Seminars * Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q22_3 D3.3 Which methods used by them/NGOs to promote agriculture development? - Through Seminars	No (0)	Count	44	19	25	57	145
		% within Q22_3 D3.3 Which methods used by them/NGOs to promote agriculture development? - Through Seminars	30.3%	13.1%	17.2%	39.3%	100.0%
		% within Q4 Farming experience years	51.8%	33.3%	34.7%	33.5%	37.8%
	Yes	Count	41	38	47	113	239

	(1)	% within Q22_3 D3.3 Which methods used by them/NGOs to promote agriculture development? - Through Seminars	17.2%	15.9%	19.7%	47.3%	100.0%
		% within Q4 Farming experience years	48.2%	66.7%	65.3%	66.5%	62.2%
Total		Count	85	57	72	170	384
		% within Q22_3 D3.3 Which methods used by them/NGOs to promote agriculture development? - Through Seminars	22.1%	14.8%	18.8%	44.3%	100.0%
		% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.146^a	3	.027
Likelihood Ratio	8.943	3	.030
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 21.52.

The approach adopted by Non-Governmental Organizations (NGOs) to promote agricultural development involves organizing seminars and inviting farmers to participate, enabling them to access vital agricultural information. This assertion was made by smallholder farmers with farming experience ranging from six to over 15 years. Conversely, those with farming experience of zero to five years disagreed with the

statement. Consequently, the null hypothesis is deemed insignificant and rejected, given an Asymp. Sig of .027, which falls below the threshold of .05.

**Which methods used by them/NGOs to promote agriculture development? -
Through training * Q4 Farming experience years**

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q22_4 D3.4 Which methods used by them/NGOs to promote agriculture development? - Through training	No (0)	Count	42	24	41	79	186
		% within Q22_4 D3.4 Which methods used by them/NGOs to promote agriculture development? - Through training	22.6%	12.9%	22.0%	42.5%	100.0%
		% within Q4 Farming experience years	49.4%	42.1%	56.9%	46.5%	48.4%
	Yes (1)	Count	43	33	31	91	198
		% within Q22_4 D3.4 Which methods used by them/NGOs to promote agriculture development? - Through training	21.7%	16.7%	15.7%	46.0%	100.0%
		% within Q4 Farming experience years	50.6%	57.9%	43.1%	53.5%	51.6%
	Total		Count	85	57	72	170

	% within Q22_4 D3.4 Which methods used by them/NGOs to promote agriculture development? - Through training	22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.297 ^a	3	.348
Likelihood Ratio	3.305	3	.347
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 27.61.

The approach employed by Non-Governmental Organizations (NGOs) to foster agricultural development involves providing training sessions for farmers to acquire diverse knowledge and skills relevant to agriculture. This assertion was endorsed by smallholder farmers with farming experience ranging from zero to over 15 years. Consequently, the null hypothesis is deemed significant and accepted, given an Asymp. Sig of .348, which surpasses the .05 threshold.

Do they/NGOs offer any support for improving agriculture? * Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q23 D4 Do	No	Count	15	4	10	19	48

they/NGOs offer any support for improving agriculture?		% within Q23 D4 Do they/NGOs offer any support for improving agriculture?	31.3%	8.3%	20.8%	39.6%	100.0%
		% within Q4 Farming experience years	17.6%	7.0%	13.9%	11.2%	12.5%
	Rarely	Count	18	26	27	46	117
		% within Q23 D4 Do they/NGOs offer any support for improving agriculture?	15.4%	22.2%	23.1%	39.3%	100.0%
		% within Q4 Farming experience years	21.2%	45.6%	37.5%	27.1%	30.5%
		Count	52	27	35	105	219
	Yes	% within Q23 D4 Do they/NGOs offer any support for improving agriculture?	23.7%	12.3%	16.0%	47.9%	100.0%
		% within Q4 Farming experience years	61.2%	47.4%	48.6%	61.8%	57.0%
		Count	85	57	72	170	384
	Total	% within Q23 D4 Do they/NGOs offer any support for improving agriculture?	22.1%	14.8%	18.8%	44.3%	100.0%

	% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.791^a	6	.022
Likelihood Ratio	14.594	6	.024
N of Valid Cases	384		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.13.

The majority of farmers with farming experience spanning from zero to five years and over fifteen years affirmed that Non-Governmental Organizations (NGOs) engaged in agriculture promotion do offer support for enhancing agricultural practices. However, the group of farmers with six to ten years of farming experience indicated that these NGOs rarely provide such support. Consequently, the null hypothesis is deemed not significant and rejected, as evidenced by a p-value of 14.791^a and an Asymp. Sig of .022, which falls below the .05 threshold.

Which support is provided by those NGOs for improving agriculture? * Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q24 D5 Which support is provided by those NGOs for improving agriculture?	Cash loan	Count	3	1	1	3	8
		% within Q24 D5 Which support is provided by those NGOs for improving agriculture?	37.5%	12.5%	12.5%	37.5%	100.0%

		% within Q4 Farming experience years	3.5%	1.8%	1.4%	1.8%	2.1%
		Count	21	10	20	31	82
		% within Q24 D5 Which support is provided by those NGOs for improving agriculture?	25.6%	12.2%	24.4%	37.8%	100.0%
	Equipments/Materials loan	% within Q4 Farming experience years	24.7%	17.5%	27.8%	18.2%	21.4%
		Count	25	16	23	63	127
		% within Q24 D5 Which support is provided by those NGOs for improving agriculture?	19.7%	12.6%	18.1%	49.6%	100.0%
	Providing manure	% within Q4 Farming experience years	29.4%	28.1%	31.9%	37.1%	33.1%
		Count	36	30	28	73	167
		% within Q24 D5 Which support is provided by those NGOs for improving agriculture?	21.6%	18.0%	16.8%	43.7%	100.0%
	Providing seeds						

		% within Q4 Farming experience years	42.4%	52.6%	38.9%	42.9%	43.5%
Total		Count	85	57	72	170	384
		% within Q24 D5 Which support is provided by those NGOs for improving agriculture?	22.1%	14.8%	18.8%	44.3%	100.0%
		% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.236 ^a	9	.613
Likelihood Ratio	6.989	9	.638
N of Valid Cases	384		

a. 4 cells (25.0%) have expected count less than 5. The minimum expected count is 1.19.

The support provided by Non-Governmental Organizations (NGOs) involved in agriculture primarily includes the provision of seeds and manure to farmers, as reported by farmers with farming experience ranging from zero to above fifteen years. The null hypothesis is accepted based on the Asymp. Sig of .613, which surpasses the .05 threshold, indicating insignificance.

Do these supports help you in improving the agriculture? * Q4 Farming experience years

	Q4 Farming experience years				Total
	0-5 years	11-15 years	6-10 years	Above 15 years	

Q25 D6 Do these supports help you in improving the agriculture?	Agree	Count	48	30	44	88	210
		% within Q25 D6 Do these supports help you in improving the agriculture?	22.9%	14.3%	21.0%	41.9%	100.0%
		% within Q4 Farming experience years	56.5%	52.6%	61.1%	51.8%	54.7%
	Disagree	Count	8	6	6	18	38
		% within Q25 D6 Do these supports help you in improving the agriculture?	21.1%	15.8%	15.8%	47.4%	100.0%
		% within Q4 Farming experience years	9.4%	10.5%	8.3%	10.6%	9.9%
	Neutral	Count	25	17	19	52	113
		% within Q25 D6 Do these supports help you in improving the agriculture?	22.1%	15.0%	16.8%	46.0%	100.0%
		% within Q4 Farming experience years	29.4%	29.8%	26.4%	30.6%	29.4%
	Strong agree	Count	4	2	2	3	11
		% within Q25 D6 Do these supports help you in improving the agriculture?	36.4%	18.2%	18.2%	27.3%	100.0%
		% within Q4 Farming experience years	4.7%	3.5%	2.8%	1.8%	2.9%
	Strongly	Count	0	2	1	9	12

	disagree	% within Q25 D6 Do these supports help you in improving the agriculture?	0.0%	16.7%	8.3%	75.0%	100.0%
		% within Q4 Farming experience years	0.0%	3.5%	1.4%	5.3%	3.1%
Total		Count	85	57	72	170	384
		% within Q25 D6 Do these supports help you in improving the agriculture?	22.1%	14.8%	18.8%	44.3%	100.0%
		% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.258 ^a	12	.681
Likelihood Ratio	11.595	12	.479
N of Valid Cases	384		

a. 7 cells (35.0%) have expected count less than 5. The minimum expected count is 1.63.

The majority of farmers, ranging from zero to above fifteen years of farming experience, acknowledged that the support provided by non-governmental organizations (NGOs) involved in promoting agriculture in Tanzania contributes to improving agriculture in their area. The null hypothesis is deemed significant and accepted, given the p-value of 9.258^a and an Asymp. Sig of .681, both exceeding the threshold of .05.

4.6d: Objective 4: To examine the role of media in the development of the rural areas in Tanzania.

Media brings the understanding knowledge concern rural development. * Q4

Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q26 E1 Media brings the understanding knowledge concern rural development	Agree	Count	45	28	39	76	188
		% within Q26 E1 Media brings the understanding knowledge concern rural development	23.9%	14.9%	20.7%	40.4%	100.0%
		% within Q4 Farming experience years	52.9%	49.1%	54.2%	44.7%	49.0%
	Disagree	Count	3	4	3	11	21
		% within Q26 E1 Media brings the understanding knowledge concern rural development	14.3%	19.0%	14.3%	52.4%	100.0%
		% within Q4 Farming experience years	3.5%	7.0%	4.2%	6.5%	5.5%
	Neutral	Count	34	21	26	72	153
		% within Q26 E1 Media brings the understanding knowledge concern rural development	22.2%	13.7%	17.0%	47.1%	100.0%
		% within Q4 Farming experience years	40.0%	36.8%	36.1%	42.4%	39.8%
	Strong	Count	3	3	2	5	13

	agree	% within Q26 E1 Media brings the understanding knowledge concern rural development	23.1%	23.1%	15.4%	38.5%	100.0%
		% within Q4 Farming experience years	3.5%	5.3%	2.8%	2.9%	3.4%
	Strong disagree	Count	0	1	2	6	9
		% within Q26 E1 Media brings the understanding knowledge concern rural development	0.0%	11.1%	22.2%	66.7%	100.0%
		% within Q4 Farming experience years	0.0%	1.8%	2.8%	3.5%	2.3%
Total	Count		85	57	72	170	384
	% within Q26 E1 Media brings the understanding knowledge concern rural development		22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years		100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.253 ^a	12	.840
Likelihood Ratio	9.106	12	.694
N of Valid Cases	384		

a. 10 cells (50.0%) have expected count less than 5. The minimum expected count is 1.34.

Farmers with farming experience ranging from zero to above fifteen years agreed that the media, which serves as their primary source of agricultural and rural development information, raises awareness about rural development. Moreover, the null hypothesis is significant and accepted, supported by a p-value of 7.253^a and an Asymp. Sig of .840, surpassing the threshold of .05.

Media presents the information about the government/ NGOs policies regarding rural development * Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	Agree	Count	38	22	23	54	137
		% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	27.7%	16.1%	16.8%	39.4%	100.0%
		% within Q4 Farming experience years	44.7%	38.6%	31.9%	31.8%	35.7%
	Disagree	Count	3	4	3	11	21
		% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	14.3%	19.0%	14.3%	52.4%	100.0%
		% within Q4 Farming experience years	3.5%	7.0%	4.2%	6.5%	5.5%
	Neutral	Count	44	30	43	97	214

		% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	20.6%	14.0%	20.1%	45.3%	100.0%
		% within Q4 Farming experience years	51.8%	52.6%	59.7%	57.1%	55.7%
	Strong agree	Count	0	0	2	6	8
		% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	0.0%	0.0%	25.0%	75.0%	100.0%
		% within Q4 Farming experience years	0.0%	0.0%	2.8%	3.5%	2.1%
		Count	0	1	1	2	4
	Strong disagree	% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	0.0%	25.0%	25.0%	50.0%	100.0%
		% within Q4 Farming experience years	0.0%	1.8%	1.4%	1.2%	1.0%
		Count	85	57	72	170	384
	Total	Count	85	57	72	170	384

	% within Q27 E2 Media presents the information about the government/ NGOs policies regarding rural development	22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.164 ^a	12	.515
Likelihood Ratio	14.596	12	.264
N of Valid Cases	384		

a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .59.

The majority of farmers with farming experience ranging from zero to fifteen years expressed uncertainty regarding whether the media presents information about government and Non-Government Organizations (NGOs) policies concerning rural development. This uncertainty stems from a lack of awareness among smallholder farmers about these policies. Consequently, even if such policies are broadcasted by the media, farmers remain uninformed about them. As a result, the null hypothesis is accepted, supported by an Asymp. Sig of .555, which exceeds the threshold of .05.

Media presents the information about the development budget for rural areas * Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q28 E3 Media	Agree	Count	31	15	26	50	122

presents the information about the development budget for rural areas		% within Q28 E3 Media presents the information about the development budget for rural areas	25.4%	12.3%	21.3%	41.0%	100.0%
		% within Q4 Farming experience years	36.5%	26.3%	36.1%	29.4%	31.8%
	Disagree	Count	8	7	5	11	31
		% within Q28 E3 Media presents the information about the development budget for rural areas	25.8%	22.6%	16.1%	35.5%	100.0%
		% within Q4 Farming experience years	9.4%	12.3%	6.9%	6.5%	8.1%
	Neutral	Count	46	33	39	105	223
		% within Q28 E3 Media presents the information about the development budget for rural areas	20.6%	14.8%	17.5%	47.1%	100.0%
		% within Q4 Farming experience years	54.1%	57.9%	54.2%	61.8%	58.1%
	Strong	Count	0	0	1	3	4

	agree	% within Q28 E3 Media presents the information about the development budget for rural areas	0.0%	0.0%	25.0%	75.0%	100.0%
		% within Q4 Farming experience years	0.0%	0.0%	1.4%	1.8%	1.0%
	Strong disagree	Count	0	2	1	1	4
		% within Q28 E3 Media presents the information about the development budget for rural areas	0.0%	50.0%	25.0%	25.0%	100.0%
		% within Q4 Farming experience years	0.0%	3.5%	1.4%	0.6%	1.0%
Total	Count		85	57	72	170	384
	% within Q28 E3 Media presents the information about the development budget for rural areas		22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years		100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.811 ^a	12	.461
Likelihood Ratio	12.648	12	.395
N of Valid Cases	384		

a. 9 cells (45.0%) have expected count less than 5. The minimum expected count is .59.

The null hypothesis is deemed significant and accepted, as indicated by the provided table where the p-value stands at 11.811^a and the Asymp.sig is .461, surpassing the critical value of .05. This finding aligns with the majority of farmers with farming experience ranging from zero to fifteen years who stated their uncertainty regarding whether the media presents information about the development budget for rural areas.

Media works well with the participatory approaches/ communication and developmental opportunities * Q4 Farming experience years

			Q4 Farming experience years				Total
			0-5 years	11-15 years	6-10 years	Above 15 years	
Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	Agree	Count	36	20	30	75	161
		% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	22.4%	12.4%	18.6%	46.6%	100.0%
		% within Q4 Farming experience years	42.4%	35.1%	41.7%	44.1%	41.9%
	Disagree	Count	4	4	4	9	21
		% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	19.0%	19.0%	19.0%	42.9%	100.0%

		% within Q4 Farming experience years	4.7%	7.0%	5.6%	5.3%	5.5%
	Neutral	Count	44	32	36	82	194
		% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	22.7%	16.5%	18.6%	42.3%	100.0%
		% within Q4 Farming experience years	51.8%	56.1%	50.0%	48.2%	50.5%
	Strong agree	Count	1	0	2	2	5
		% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	20.0%	0.0%	40.0%	40.0%	100.0%
		% within Q4 Farming experience years	1.2%	0.0%	2.8%	1.2%	1.3%
	Strong disagree	Count	0	1	0	2	3
		% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities	0.0%	33.3%	0.0%	66.7%	100.0%

		% within Q4 Farming experience years	0.0%	1.8%	0.0%	1.2%	0.8%
Total	Count		85	57	72	170	384
	% within Q29 E4 Media works well with the participatory approaches/ communication and developmental opportunities		22.1%	14.8%	18.8%	44.3%	100.0%
	% within Q4 Farming experience years		100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.983 ^a	12	.917
Likelihood Ratio	7.434	12	.828
N of Valid Cases	384		

a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .45.

The null hypothesis is considered significant and accepted based on the provided results, where the p-value is 5.983^a and the Asymp. Sig is .917, exceeding the threshold of .05. This conclusion is consistent with the feedback from small holder farmers with farming experience ranging from zero to above fifteen years, who expressed uncertainty regarding whether the media effectively employs participatory approaches, communication strategies, and developmental opportunities.

Media take the rural development projects to the doorsteps of the people * Q4 Farming experience years

	Q4 Farming experience years				Total
	0-5 years	11-15 years	6-10 years	Above 15 years	

Q30 E5 Media take the rural development projects to the doorsteps of the people	Agree	Count	36	21	26	50	133
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	27.1%	15.8%	19.5%	37.6%	100.0%
		% within Q4 Farming experience years	42.4%	36.8%	36.1%	29.4%	34.6%
	Disagree	Count	6	6	7	14	33
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	18.2%	18.2%	21.2%	42.4%	100.0%
		% within Q4 Farming experience years	7.1%	10.5%	9.7%	8.2%	8.6%
	Neutral	Count	41	29	37	100	207
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	19.8%	14.0%	17.9%	48.3%	100.0%
		% within Q4 Farming experience years	48.2%	50.9%	51.4%	58.8%	53.9%
	Strong agree	Count	2	0	2	3	7
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	28.6%	0.0%	28.6%	42.9%	100.0%

		% within Q4 Farming experience years	2.4%	0.0%	2.8%	1.8%	1.8%
	Strong disagree	Count	0	1	0	3	4
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	0.0%	25.0%	0.0%	75.0%	100.0%
		% within Q7 Farming experience years	0.0%	1.8%	0.0%	1.8%	1.0%
Total		Count	85	57	72	170	384
		% within Q30 E5 Media take the rural development projects to the doorsteps of the people	22.1%	14.8%	18.8%	44.3%	100.0%
		% within Q4 Farming experience years	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square	9.290 ^a	12	.678
Likelihood Ratio	11.674	12	.472
N of Valid Cases	384		

a. 9 cells (45.0%) have expected count less than 5. The minimum expected count is .59.

The null hypothesis regarding whether the media takes rural development projects to the doorsteps of the people is accepted, as indicated by the p-value of 9.290^a and Asymp. Sig of .678, which surpasses the significance threshold of .05. Furthermore, the majority of small holder farmers, with farming experience ranging from zero to above fifteen years,

stated that they do not possess knowledge regarding whether the media undertakes rural development projects directly to the people's doorsteps.

Analysis and Discussion for the Open Ended Questions

Objective I: Role of Media in Inculcating Adaptation of Innovation and Barriers in Agriculture Among Smallholder Farmers of Tanzania

- a. **Influence of Media on Introducing Agricultural Practices:** The influence of media in introducing new agricultural practices or technologies to smallholder farmers in Tanzania can be significant. Through various channels such as radio, television, and mobile phones, media can disseminate information about innovative practices, their benefits, and how to implement them effectively.
- b. **Personal Experiences:** Personal experiences may vary, but there are instances where media channels have positively impacted the adoption of agricultural innovations among smallholder farmers. For example, radio programs broadcasting success stories of farmers who have adopted new techniques can inspire others to follow suit. Conversely, negative portrayals or misinformation in media can hinder adoption efforts.
- c. **Challenges and Barriers:** Smallholder farmers in Tanzania face numerous challenges in adopting new agricultural methods or technologies, including lack of access to information, limited resources, and cultural barriers. Media can help address these challenges by providing localized and actionable information, facilitating peer-to-peer learning, and showcasing successful case studies.
- d. **Tailoring Content for Effectiveness:** To better communicate agricultural innovations to smallholder farmers, media platforms could tailor their content by using local languages, featuring relatable narratives, providing practical demonstrations, and utilizing interactive formats such as call-in shows or SMS-based services.

Objective II: Changes in Agricultural Practices in Rural Areas of Tanzania Through Media

- a. **Influence of Media Coverage:** Over the past decade, media coverage has played a significant role in influencing the evolution of agricultural practices in rural Tanzania. Radio programs, in particular, have been instrumental in disseminating information about improved farming techniques, crop varieties, and pest management strategies.
- b. **Examples of Adopted Practices:** Specific agricultural practices or techniques that have been adopted or changed in rural Tanzania due to media influence include conservation agriculture, agroforestry, and integrated pest management. For instance, radio broadcasts featuring experts discussing the benefits of conservation agriculture have led to its adoption by farmers seeking sustainable farming methods.
- c. **Amplifying Coverage of Success Stories:** Media channels could further amplify their coverage of successful agricultural practices by featuring more diverse voices, including farmers, extension workers, and researchers. Collaborating with agricultural agencies to produce informative and engaging content can also enhance the reach and impact of media initiatives.
- d. **Alignment with Farmers' Experiences:** It's crucial for media content to align with the actual experiences and needs of farmers in rural Tanzania. This can be achieved by involving farmers in the production process, conducting audience research to understand their preferences and challenges, and ensuring that information provided is relevant and applicable to local contexts.

Objective III: Communication Strategies for Promoting Agriculture

- a. **Effective Communication Strategies:** Effective communication strategies employed by agencies or organizations to promote agricultural development in Tanzania through media channels include using multiple platforms to reach diverse audiences, partnering with local influencers or community leaders, and leveraging interactive formats for two-way communication.

- b. **Innovative Approaches:** Innovative approaches, such as using mobile apps for extension services, interactive voice response (IVR) systems for agricultural advisories, and participatory radio programs featuring farmer testimonials, have been successful in engaging farmers through media for agricultural promotion.
- c. **Role of Collaboration:** Collaboration between media outlets and agricultural agencies plays a crucial role in disseminating information and promoting agricultural initiatives effectively. By combining expertise in communication with technical knowledge in agriculture, such partnerships can ensure that messages are conveyed accurately and resonate with target audiences.
- d. **Improving Reach to Underserved Areas:** Communication strategies through media could be improved to better reach and engage smallholder farmers in remote or underserved areas of Tanzania by investing in infrastructure for reliable access to communication technologies, providing training on digital literacy, and incorporating feedback mechanisms to tailor information to local needs.

Objective IV: Role of Media in Development of Rural Areas in Tanzania

- a. **Overall Impact of Media:** The overall impact of media on the development and progress of rural areas in Tanzania is significant. Beyond agriculture, media plays a crucial role in raising awareness about healthcare, education, infrastructure, and other development issues, thereby empowering rural communities and driving positive change.
- b. **Examples of Influenced Projects:** Specific development initiatives or projects in rural Tanzania that have been influenced or supported by media coverage include community-driven initiatives for water management, education campaigns on health and sanitation, and entrepreneurship programs for rural youth.
- c. **Contributions beyond Agriculture:** Media channels could contribute more effectively to the holistic development of rural communities by diversifying content to address broader socio-economic challenges, fostering dialogue and civic engagement, and highlighting local success stories and role models.

- d. **Challenges and Limitations:** Challenges faced by media in adequately representing and addressing the development needs of rural areas in Tanzania include limited resources, infrastructural constraints, language barriers, and unequal access to information. Overcoming these challenges requires collaboration among stakeholders and targeted interventions to bridge the digital divide.

In summary, the role of media in promoting agricultural innovation and rural development in Tanzania is multifaceted, requiring tailored communication strategies, collaboration among stakeholders, and a nuanced understanding of local contexts and challenges. By leveraging media effectively, stakeholders can empower smallholder farmers, foster sustainable development, and contribute to the overall well-being of rural communities.

Section Two – Qualitative Data Analysis

This section focuses on the qualitative data collected through interviews with agriculture government officials, villages' leaders, NGOs representatives and representatives from both private and government-owned media. The analysis of this data was conducted in tables and descriptively, addressing the following questions:

1. In what ways do you think media platforms could better tailor their content to effectively communicate agricultural innovations to smallholder farmers?
2. What are some of the main challenges or barriers faced by smallholder farmers in Tanzania when it comes to adopting new agricultural methods or technologies?
3. How do you think the portrayal of agricultural practices in media content aligns with the actual experiences and needs of farmers in rural Tanzania?
4. From your perspective, what are some effective communication strategies employed by agencies or organizations and government to promote agricultural development in Tanzania through media channels?
5. How do the media contribute to the advancement of agriculture and rural areas in Tanzania?

Table 1: Ways which media platforms could better tailor their content to effectively communicate agricultural innovations to smallholder farmers

S.No	Office/Area	Position	Response
1	<i>Ministry of Agriculture in Tanzania</i>	<i>Agriculture official</i>	Through platforms such as radio and television, the media plays a vital role in promoting agricultural modernization and poverty reduction initiatives.
2	<i>Ministry of Agriculture in Tanzania</i>	<i>Head of Irrigation Department</i>	Media plays a crucial role in disseminating information about new developments in the agriculture sector that can benefit small-scale farmers. This includes modern agricultural practices and the application of new technologies such as irrigation systems and harvesting machines
3	<i>Ministry of Agriculture in Tanzania</i>	<i>Communication Officer</i>	Facilitates the dissemination of relevant news and information from the Ministry of Agriculture dedicated to agricultural development in the country
4	<i>AGRIWEZESHA in Tanzania (NGO)</i>	<i>Spokesperson</i>	By working together, these entities aim to support small-scale farmers in improving productivity, increasing their incomes, and promoting sustainable agricultural practices.
5	<i>Tanzania Broadcasting Corporation (Government media)</i>	<i>Marketing Officer-</i>	Media channels serve as effective platforms for disseminating information and promoting modern practices and technologies among smallholder farmers
6	<i>Mwananchi Communication Ltd (Private media)</i>	<i>Journalist</i>	Media's efforts contribute significantly to enhancing productivity, boosting incomes, and promoting sustainability in agriculture
7	<i>Msingisi & Ihenje Villages</i>	<i>Village Executive Officer</i>	Media helps farmers to gain more skills and knowledge concerns the agriculture through Programmes and advertisements about the

			subsidy of fennel seeds
8	<i>Ibuti Village</i>	<i>Village Chairman</i>	Our people are receiving skills through media on materials needed for agriculture especially seeds, fertilizers an even pesticides.
9	<i>IFAD in Tanzania (NGO)</i>	<i>Agriculture Officer</i>	We use media to reach farmers especially when we want to introduce new project, and it is done through preparing programmes and advertisements
10	<i>Gairo District Office</i>	<i>Agriculture Officer</i>	The ongoing collaboration between the National Irrigation Commission and media outlets is recognized as crucial for furthering these positive impacts and advancing agricultural development in Tanzania

The preceding table 1 highlights the vital role of media in Tanzania's agricultural sector, serving as an essential platform for disseminating agricultural knowledge, promoting modern farming techniques, enhancing productivity, and empowering smallholder farmers. The collaboration between government ministries, NGOs, media outlets, and local communities is fundamental in driving the agricultural transformation, with a strong focus on sustainability and poverty reduction. Media's wide reach, particularly in rural areas, enables farmers to access vital resources such as new technologies, agricultural inputs, and government programs. This collaborative effort is crucial in fostering long-term agricultural growth and development in Tanzania.

This table presents responses from various stakeholders, including government ministries, NGOs, private media companies, and village officials in Tanzania, on the role of media in disseminating agricultural innovations to smallholder farmers. The responses offer valuable insights into how media platforms are perceived and utilized for the purpose of promoting agricultural advancements, improving productivity, and addressing the needs of smallholder farmers.

Key Themes and Insights

i. Media's Role in Agricultural Development

Across all responses, there is a clear consensus that media plays a crucial role in improving the agricultural sector, particularly by reaching smallholder farmers. The Ministry of Agriculture in Tanzania emphasizes the role of media in promoting agricultural modernization, poverty reduction, and new technologies. Similarly, responses from NGOs (AGRIWEZESHA and IFAD) and the Tanzania Broadcasting Corporation highlight how media helps disseminate information on sustainable farming practices, productivity enhancement, and new technologies (e.g., irrigation systems, harvesting machines, fertilizers, etc.).

ii. Targeted Media Channels

Different stakeholders emphasize the effectiveness of radio, television, and other broadcast media as primary channels for delivering agricultural information to smallholder farmers. For instance, the Ministry of Agriculture and Tanzania Broadcasting Corporation highlight radio and television as important platforms. Media in these forms are essential because they can reach rural, often illiterate, populations who may not have access to digital platforms. This suggests that mass media outlets are crucial in making agricultural knowledge accessible to farmers with limited technological resources.

iii. Content Relevance and Practicality

A significant number of respondents emphasize that the content communicated through media must be directly relevant to farmers' needs. Responses from local stakeholders, such as Village Executive Officers and Village Chairmen, underscore the importance of media providing practical, actionable information on materials such as seeds, fertilizers, pesticides, and irrigation technologies. The dissemination of subsidies and government support (e.g., for fennel seeds) through media also plays an important role in ensuring farmers access necessary resources.

iv. Collaboration Between Media and Agricultural Institutions

There is a strong indication of collaboration between media platforms and agricultural entities such as government ministries, NGOs, and district offices. For instance, the collaboration between the National Irrigation Commission and media outlets is recognized as essential for advancing agricultural development. This partnership is

important because it ensures that the media messages are aligned with national agricultural goals and that farmers receive accurate, trustworthy information.

v. Empowerment and Capacity Building

A few responses focus on the role of media in empowering farmers by providing educational content. For example, the response from Msingisi & Ihenje Villages' Village Executive Officer and the IFAD Agriculture Officer suggest that media not only serves as a channel for broadcasting information but also acts as a tool for capacity building. Farmers are gaining knowledge and skills, which is critical for enhancing productivity, improving sustainability, and fostering long-term agricultural development.

vi. Improvement of Media Content

While not explicitly stated, the overall tone of the responses suggests an implicit need to better tailor content to the local contexts and specific needs of farmers. Content that is easy to understand, culturally relevant, and practically oriented can help bridge knowledge gaps and ensure that farmers can adopt new technologies and practices effectively. The focus on media advertisements and dedicated programs for agricultural development indicates that there is still potential for improving the quality and reach of these media campaigns.

The responses presented in the table 1 underscore the critical role of media in facilitating the dissemination of agricultural innovations to smallholder farmers in Tanzania. By leveraging media's broad reach, partnering with agricultural institutions, and tailoring content to meet the specific needs of farmers, media platforms can play a pivotal role in improving agricultural productivity, sustainability, and poverty reduction efforts. The collaboration between media, government, and NGOs is key to ensuring that smallholder farmers are empowered with the knowledge and tools they need to succeed in modern agriculture.

Table 2: Challenges or barriers faced by smallholder farmers in Tanzania when it comes to adopting new agricultural methods or technologies through media

S.No	Office/Area	Position	Response
1	<i>Ministry of</i>	<i>Agriculture official</i>	Most farmers in the village is the

	<i>Agriculture in Tanzania</i>		high cost of the media sources such as radio and television along with smart mobile phones
2	<i>Ministry of Agriculture in Tanzania</i>	<i>Head of Irrigation Department</i>	Time which the agriculture programmes are aired farmers are busy with the farm activities
3	<i>Ministry of Agriculture in Tanzania</i>	<i>Communication Officer</i>	Sometimes small holder farmers face the problem of the technical language which are used on agriculture programmes on the media
4	<i>AGRIWEZESHA in Tanzania (NGO)</i>	<i>Spokesperson</i>	Some farmers believe that these new innovation of technology might harm their land
5	<i>Tanzania Broadcasting Corporation (Government media)</i>	<i>Marketing Officer-</i>	Most of farmers are declared of poor signals when they search for FM and AM, along with the lack of internet
6	<i>Mwananchi Communication Ltd (Private media)</i>	<i>Journalist</i>	Adequate feedback from both agriculture officers and small holder farmers
7	<i>Msingisi & Ihenje Villages</i>	<i>Village Excutive Officer</i>	Little follow up from the agriculture officers and motivation to the small holder farmers
8	<i>Ibuti Village</i>	<i>Village Chairman</i>	Our people still believe that the previous and local seeds and fertilizers are the best and new ones are there to destroy their land.
9	<i>IFAD in Tanzania (NGO)</i>	<i>Agriculture Officer</i>	Lack of agriculture inputs towards small holder farmers
10	<i>Gairo District Office</i>	<i>Agriculture Officer</i>	Once farmers heard and watch new skills and innovation of technology from the media, sometimes some of them practice wrongly and bring negative impact and never believe on them again, so only follow up is needed to them from the agriculture officers.

The preceding table 2 presents responses from various stakeholders, including government officials, NGOs, private media companies, and local village representatives in Tanzania, highlighting the challenges faced in effectively using media platforms to communicate agricultural innovations to smallholder farmers. The challenges range from technical barriers like poor media signals to social and psychological barriers such as distrust in new technologies and the technical complexity of media content. Below is an analysis of these challenges based on the responses.

Key Themes and Insights

i. Access to Media

Several responses highlight the high cost of media access as a major barrier to reaching smallholder farmers. According to the Ministry of Agriculture (Agriculture Official), the high costs of radio, television, and smart mobile phones make it difficult for farmers, particularly in rural areas, to access agricultural programs. This economic barrier limits the effectiveness of media outreach, especially when farmers may already be struggling financially. The Tanzania Broadcasting Corporation Marketing Officer also mentions that poor signal quality for FM and AM radio further exacerbates the problem, especially in remote areas where media infrastructure may be lacking.

ii. Timing of Media Programs

The Head of Irrigation Department from the Ministry of Agriculture points out that agricultural programs often air at times when farmers are busy with farm activities. In rural agricultural settings, smallholder farmers are typically occupied with fieldwork during daylight hours. This timing mismatch means that they are unable to watch or listen to important agricultural broadcasts, which significantly reduces the impact of the programs. This issue could be addressed by airing programs at different times, such as early mornings, evenings, or even using platforms like mobile apps to allow farmers to access content at their convenience.

iii. Complexity and Technical Language

Communication Officer from the Ministry of Agriculture notes that technical language used in media programs is often too complex for smallholder farmers, many of whom may have low levels of formal education. This barrier of technical jargon limits the understanding of key agricultural concepts and innovations. Simplifying the language used in media content, and integrating more practical, easy-to-understand demonstrations, could improve communication effectiveness.

iv. Distrust of New Technologies

A recurring theme in the responses is the distrust of new agricultural technologies. The AGRIWEZESHA Spokesperson and Village Chairman (Ibuti Village) both point out that many farmers are skeptical about the benefits of new technologies and innovations, often believing that they might harm their land or are not suitable for their local conditions. This skepticism is compounded by farmers' attachment to traditional methods and local seeds and fertilizers, which they believe are better for the land. Overcoming this skepticism requires not only education and information dissemination but also building trust through real-life success stories, peer-to-peer demonstrations, and follow-up visits from agricultural officers.

v. Lack of Follow-Up and Support

Several responses highlight the lack of follow-up and support from agriculture officers after media programs are broadcast. The Village Executive Officer from Msingisi & Ihenje Villages emphasizes that there is often little motivation and follow-up from agricultural officers to encourage farmers to adopt new practices. Similarly, the Gairo District Office Agriculture Officer notes that some farmers who initially try new skills or technologies after watching media broadcasts do so incorrectly, leading to negative outcomes, which in turn causes them to lose faith in the innovations. This suggests a critical gap in the continuity of support after media outreach, which could be addressed through regular field visits, community engagement, and better coordination between media campaigns and on-the-ground agricultural extension services.

vi. Inadequate Feedback Mechanisms

Mwananchi Communication Ltd's response highlights the lack of adequate feedback from both farmers and agricultural officers. Effective communication is a two-way process, and without sufficient feedback, media campaigns may miss the mark or fail to address the real needs and concerns of smallholder farmers. Agriculture officers and media outlets need mechanisms for collecting farmer feedback, which could be achieved through surveys, phone-ins, or interactive media programs that allow farmers to share their experiences and challenges.

vii. Challenges with Agricultural Inputs

The IFAD Agriculture Officer notes the lack of agricultural inputs (e.g., seeds, fertilizers) as a persistent challenge. Even if media programs successfully educate farmers about new innovations, the limited availability or high cost of inputs can prevent them from implementing the new practices. This issue highlights the need for integrated solutions that address both knowledge dissemination and the provision of essential resources.

The responses in the table reveal several critical challenges in using media platforms to effectively communicate agricultural innovations to smallholder farmers in Tanzania. These challenges range from economic barriers and timing issues to technical language and lack of follow-up support. Addressing these challenges requires a more holistic approach that not only improves access to media but also ensures the continuity of support through agricultural officers, simplifies content, and builds trust in new technologies. By addressing these barriers, media can become a more powerful tool for driving agricultural change and improving the livelihoods of smallholder farmers.

Table 3: Portrayal of agricultural practices in media content aligns with the actual experiences and needs of farmers in rural Tanzania

S.No	Office/Area	Position	Response
1	<i>Ministry of Agriculture in Tanzania</i>	<i>Agriculture official</i>	Small-scale farmers have transitioned from manual tools to mechanization, utilizing animal traction and motorized equipment such as tractors for digging and sowing processes.

2	<i>Ministry of Agriculture in Tanzania</i>	<i>Head of Irrigation Department</i>	The rise of irrigation farming has been a significant development in rural areas of Tanzania, benefiting small-scale farmers by ensuring consistent crop yields even during periods of low rainfall.
3	<i>Ministry of Agriculture in Tanzania</i>	<i>Communication Officer</i>	Fertilizers aid in boosting plant growth and enhancing production, resulting in improved yields
4	<i>AGRIWEZESHA in Tanzania (NGO)</i>	<i>Spokesperson</i>	Pesticides play a crucial role in pest and disease management, helping farmers protect their crops from insects and fungi, thereby promoting plant health and increasing output.
5	<i>Tanzania Broadcasting Corporation (Government media)</i>	<i>Marketing Officer-</i>	Farmers adapt to changing environmental conditions and mitigate climate-related risks, ensuring continued agricultural production.
6	<i>Mwananchi Communication Ltd (Private media)</i>	<i>Journalist</i>	It has been changes on agriculture practices towards small holder farmers after listening and watch agriculture programs such as using fertilizers and seeds which are advised
7	<i>Msingisi & Ihenje Villages</i>	<i>Village Executive Officer</i>	People are practicing new methods, techniques such as irrigation system in agriculture, on how to serve their yields in a special sacks for staying longer without being destructed by pest and even using the seeds and fertilizers which have been advised on different programs.
8	<i>Ibuti Village</i>	<i>Village Chairman</i>	There has been a notable shift away from the use of traditional seeds among small-scale farmers. Previously, farmers would save seeds from their harvest and reuse them in subsequent planting seasons
9	<i>IFAD in Tanzania</i>	<i>Agriculture Officer</i>	The application of agricultural inputs such as fertilizers and

	(NGO)		pesticides has become prevalent among small-scale farmers. By embracing modern seed varieties, small-scale farmers can enhance the quality and quantity of their harvests, contributing to food security and economic prosperity in rural communities.
10	Gairo District Office	Agriculture Officer	With increased education and awareness about the limitations of traditional seeds, farmers are now choosing to discard them. This change reflects a growing understanding of the advantages of modern seeds, which often offer improved yields, resilience to pests and diseases, and other beneficial traits.

This preceding table 3 outlines the responses of various stakeholders such as government officials, NGOs, media representatives, and local community leaders, regarding the adoption of agricultural innovations by smallholder farmers in Tanzania. These innovations range from the use of mechanized tools and irrigation systems to the application of fertilizers, pesticides, and improved seeds. The responses reflect a broad shift in farming practices, with many farmers moving toward modern agricultural techniques to increase productivity, manage environmental risks, and improve economic outcomes. Below is an analysis of the key themes and insights emerging from these responses.

Key Themes and Insights

i. Mechanization and Improved Tools

The Agriculture Official from the Ministry of Agriculture highlights the transition from manual tools to mechanization, which includes the use of animal traction and motorized equipment like tractors. This marks a significant shift in farming practices, where smallholder farmers are increasingly adopting mechanized tools for tasks such as digging and sowing, which significantly enhance efficiency and productivity. This shift is

important for reducing labor demands and increasing the scale of farming activities, particularly in areas where manual labor is insufficient to meet the demands of larger, modern farms.

ii. Irrigation and Climate Resilience

The Head of Irrigation Department mentions the rise of irrigation farming as a key development in rural areas. This shift is particularly significant in regions affected by irregular rainfall patterns, where traditional rain-fed agriculture is not sufficient. By adopting irrigation systems, smallholder farmers can ensure consistent crop yields, even during dry seasons. This development is crucial for climate resilience, allowing farmers to better manage climate-related risks and ensure a stable food supply, thereby improving food security in rural areas.

iii. Use of Fertilizers for Enhanced Yields

Several responses emphasize the importance of fertilizers in boosting crop yields. The Communication Officer from the Ministry of Agriculture notes that fertilizers are crucial for boosting plant growth and improving production. Similarly, responses from NGOs and local village representatives stress the role of fertilizers in enhancing crop health, promoting better yields, and contributing to the overall improvement of farming productivity. As smallholder farmers move away from traditional methods, the use of fertilizers becomes a key component of modern agricultural practices.

iv. Pesticides for Pest and Disease Control

Pesticides are highlighted by the AGRIWEZESHA Spokesperson as essential for pest and disease management. This innovation helps farmers protect their crops from harmful pests and diseases, which can significantly reduce crop losses and ensure healthy harvests. The adoption of pesticides, when used appropriately, can increase productivity and safeguard crops from common agricultural threats, contributing to improved food security and higher yields.

v. Modern Seed Varieties

A recurring theme in the responses is the shift toward modern seed varieties. According to the IFAD Agriculture Officer, smallholder farmers are increasingly adopting modern seeds that offer better yields, resistance to pests and diseases, and other beneficial traits. This adoption reflects a growing understanding of the limitations of traditional seeds, which are being discarded by many farmers. The Gairo District Agriculture Officer notes that as farmers become more educated about the limitations of traditional seeds, they are opting for improved seed varieties that contribute to better overall productivity and resilience to climate change.

vi. Educational Impact of Media

The role of media programs in promoting agricultural innovation is clearly noted by several respondents. The Mwananchi Communication Ltd Journalist mentions the positive changes in farming practices due to the influence of agricultural programs, particularly regarding the use of fertilizers and improved seeds. The Village Executive Officer and Village Chairman from Msingisi & Ihenje and Ibuti villages also highlight the adoption of irrigation systems, specialized storage techniques, and the use of fertilizers and seeds as a result of media exposure. This indicates that media plays a crucial role in educating farmers about modern agricultural practices and influencing their adoption of new technologies.

vii. Transition from Traditional to Modern Agricultural Practices

A notable trend in the responses is the shift from traditional agricultural practices to more modern methods. Traditional seeds, which were previously saved and reused from harvest to harvest, are being replaced by modern seed varieties that are more productive and resistant to pests and diseases. This shift reflects a broader change in mindset among smallholder farmers as they embrace more scientific and technologically advanced farming practices. The Msingisi & Ihenje Village Executive Officer mentions the adoption of special sacks for storing crops, which help preserve yields for longer periods and protect them from pests. This shift to modern methods is indicative of farmers' willingness to invest in innovations that improve efficiency and productivity.

The responses in the table illustrate the positive shifts in agricultural practices among smallholder farmers in Tanzania, with increasing adoption of mechanization, irrigation, fertilizers, pesticides, and modern seed varieties. Media has played a pivotal role in educating farmers and influencing their decisions to adopt these innovations. However, to further enhance the impact of these changes, it is essential to address barriers to access, provide ongoing support, and ensure that farmers are equipped with the knowledge and resources they need to successfully implement new practices. By building on these foundations, Tanzania can continue to improve the productivity, sustainability, and resilience of its agricultural sector.

Table 4: Effective communication strategies employed by agencies or organizations and government to promote agricultural development in Tanzania through media channels

S.No	Office/Area	Position	Response
1	<i>Ministry of Agriculture in Tanzania</i>	<i>Agriculture official</i>	Social media platforms like Facebook and Instagram under the Ministry of Agriculture's name to disseminate information and advertisements regarding agricultural matters to the general public.
2	<i>Ministry of Agriculture in Tanzania</i>	<i>Head of Irrigation Department</i>	Establishment of "Kilimo Television" ensures that agricultural issues are the sole focus of this channel's broadcasts.
3	<i>Ministry of Agriculture in Tanzania</i>	<i>Communication Officer</i>	Agricultural programs on traditional media platforms such as radio and television further contribute to the dissemination of agricultural knowledge.
4	<i>AGRIWEZESHA in Tanzania (NGO)</i>	<i>Spokesperson</i>	Actively participate in public events such as 'Nanene'. These events are farmer exhibitions held across Tanzania from August 1st to 10th every year, providing farmers with opportunities to showcase their products
5	<i>Tanzania Broadcasting Corporation</i>	<i>Marketing Officer-</i>	The government has established a dedicated Communication Unit within various departments, including the Ministry of

	<i>(Government media)</i>		Agriculture, aimed at promoting agricultural-related issues.
6	<i>Mwananchi Communication Ltd (Private media)</i>	<i>Journalist</i>	Smallholder farmers primarily rely on radio and television for agricultural information, with limited engagement on social media.
7	<i>Msingisi & Ihenje Villages</i>	<i>Village Executive Officer</i>	Physical visits from the agriculture officers to small holder farmers to offer them skills, knowledge and information about the agriculture
8	<i>Ibuti Village</i>	<i>Village Chairman</i>	Apart from the media programs there are discussions with the agriculture experts with small holder farmers for training and others
9	<i>IFAD in Tanzania (NGO)</i>	<i>Agriculture Officer</i>	Organizations utilize events like World Food Day to promote agricultural-related agendas and initiatives
10	<i>Gairo District Office</i>	<i>Agriculture Officer</i>	Public forums such as farmers' union gatherings serve as platforms to advance agricultural agendas.

This preceding table 4 highlights the various communication strategies employed by agencies, organizations, and the government in Tanzania to promote agricultural development through media channels. The responses reflect a blend of traditional and modern communication methods, focusing on broadcast media, social media, public events, and direct engagement with farmers. Below is a detailed analysis of the different strategies and their effectiveness.

Key Themes and Insights

i. Social Media and Traditional Media Integration

The Ministry of Agriculture uses social media platforms such as Facebook and Instagram to disseminate agricultural information and advertisements. These platforms allow the Ministry to reach a broader and more diverse audience, particularly the younger, tech-

savvy population. However, social media engagement is noted as supplementary, with traditional media still playing a dominant role in reaching smallholder farmers. This is emphasized by the Mwananchi Communication Ltd Journalist, who points out that smallholder farmers rely mainly on radio and television for agricultural information. This highlights the necessity of a dual approach, using social media to reach younger generations while relying on radio and TV to effectively communicate with rural farmers.

ii. Specialized Agricultural Television Channels

The Ministry of Agriculture's Head of Irrigation Department highlights the creation of Kilimo Television, a channel dedicated to agricultural issues. This initiative focuses on providing targeted, comprehensive content about agricultural innovations, irrigation practices, and other farming-related topics. The specialized nature of this channel ensures that all content is relevant to farmers' needs, and it serves as a valuable resource for disseminating agricultural knowledge in a focused, consistent manner.

iii. Public Events and Exhibitions

Public events such as Nanenane, an agricultural exhibition held annually in Tanzania, are a significant part of AGRIWEZESHA's strategy. These exhibitions provide farmers with opportunities to showcase their products, learn from experts, and engage with various stakeholders. These events help build a sense of community, facilitate the exchange of ideas, and allow farmers to access practical knowledge and technology demonstrations. The IFAD Agriculture Officer also mentions the importance of events like World Food Day, which serves to promote agricultural agendas and foster discussions around food security and sustainable farming practices. Such events are pivotal in raising awareness and promoting adoption of new agricultural practices.

iv. Government Communication Units

The Tanzania Broadcasting Corporation (TBC) has set up a dedicated Communication Unit within the Ministry of Agriculture. This unit's primary task is to ensure that agricultural issues are effectively communicated through various media channels. The establishment of these units reflects a strategic approach to promoting agriculture through consistent messaging and ensuring that all government departments are aligned in

promoting agricultural initiatives. It also ensures the government's efforts to advance agricultural development are centralized and coordinated.

v. Direct Interaction and Physical Visits

The role of physical visits by agricultural officers, highlighted by the Village Executive Officer from Msingisi & Ihenje Villages, emphasizes the importance of in-person communication. Officers visiting farmers directly to provide training and guidance on agricultural techniques ensures that the knowledge transfer is practical and tailored to local contexts. This is complemented by the Village Chairman from Ibuti Village, who stresses the importance of discussions with agricultural experts in addition to media programs. These face-to-face engagements allow farmers to ask questions, clarify doubts, and receive more targeted assistance.

vi. Public Forums and Community Engagement

Public forums like farmers' union gatherings play a crucial role in promoting agricultural development. According to the Gairo District Agriculture Officer, these forums provide a platform for advancing agricultural agendas by allowing farmers to engage directly with experts and discuss agricultural challenges, policies, and innovations. These gatherings create space for dialogue between stakeholders, fostering community involvement and increasing the likelihood of farmers adopting new practices.

The strategies outlined in Table 4 demonstrate a comprehensive approach to promoting agricultural development in Tanzania. By leveraging a combination of traditional media, social media, public events, and direct farmer engagement, the stakeholders are able to disseminate knowledge, build awareness, and foster a sense of community among farmers. However, for these efforts to be more effective, there needs to be a continued focus on localized, interactive, and follow-up communication to ensure that farmers not only receive information but also have the resources and support necessary to apply new agricultural practices. These multi-channel strategies will be crucial in driving sustainable agricultural development and improving food security for smallholder farmers across Tanzania.

Table 5: Media contribution to the advancement of agriculture and rural areas in Tanzania

S.No	Office/Area	Position	Response
1	<i>Ministry of Agriculture in Tanzania</i>	<i>Agriculture official</i>	Media outlets in Tanzania play a crucial role in disseminating information about weather changes, enabling farmers to make informed decisions about their agricultural practices in response to changing weather conditions.
2	<i>Ministry of Agriculture in Tanzania</i>	<i>Head of Irrigation Department</i>	Media channels are responsible for promoting government policies related to agriculture, which aim to benefit farmers and contribute to rural development by reducing poverty.
3	<i>Ministry of Agriculture in Tanzania</i>	<i>Communication Officer</i>	Promotes modern agricultural technology through various channels, including agricultural programs on air that highlight technological advancements applicable to farming practices.
4	<i>AGRIWEZESHA in Tanzania (NGO)</i>	<i>Spokesperson</i>	Advertisements feature new agricultural equipment aimed at enhancing productivity.
5	<i>Tanzania Broadcasting Corporation (Government media)</i>	<i>Marketing Officer-</i>	Facilitates connections between buyers and farmers, enabling farmers to sell their products at favorable prices.
6	<i>Mwananchi Communication Ltd (Private media)</i>	<i>Journalist</i>	Educates farmers on available agricultural inputs and invites agricultural stakeholders for interviews to inform farmers about the latest technologies that can improve yields and agricultural practices.
7	<i>Msingisi & Ihenje Villages</i>	<i>Village Executive Officer</i>	Media provides information and knowledge concern the rural development such as policies, budget and funds for some

			projects.
8	<i>Ibuti Village</i>	<i>Village Chairman</i>	It gives information even about scholarships for the rural people and funds too, along with the education
9	<i>IFAD in Tanzania (NGO)</i>	<i>Agriculture Officer</i>	Facilitating a connection between smallholder farmers and policymakers, media serves as a vital conduit for ensuring that agricultural policies address the needs and concerns of farmers.
10	<i>Gairo District Office</i>	<i>Agriculture Officer</i>	Promoting agricultural policies through various channels, media helps raise awareness among stakeholders, fostering adherence to policies aimed at agricultural development and poverty reduction within society.

This preceding table 5 presents the ways in which media contributes to the advancement of agriculture and rural development in Tanzania. The responses highlight the diverse roles of media outlets, ranging from weather forecasting to promoting government policies and facilitating connections between farmers and markets. The various stakeholders provide insights into how media is not just an information tool but also an instrument for social change, rural empowerment, and economic growth in agricultural communities.

Key Themes and Insights

i. Weather Information and Climate Awareness

The Ministry of Agriculture's Agriculture Official emphasizes the crucial role of media in disseminating weather information. In an era of climate change, where unpredictable weather patterns significantly affect agricultural productivity, media channels provide timely updates on weather forecasts. This enables smallholder farmers to make informed decisions about when to plant, irrigate, or harvest crops, helping them better adapt to climate variability. The importance of media as an early warning system for extreme weather events like droughts or floods is critical to improving the resilience of rural communities.

i. Promotion of Government Policies and Rural Development

The Head of Irrigation Department from the Ministry of Agriculture mentions that media plays an essential role in promoting government policies related to agriculture. This includes policies that aim to benefit smallholder farmers and contribute to broader rural development goals such as poverty reduction. By communicating these policies to farmers, media ensures that they are well-informed about initiatives such as subsidies, irrigation schemes, and other support programs. The media also serves as a platform for policy advocacy, raising awareness among the public about the importance of such policies for agricultural development.

ii. Promotion of Modern Agricultural Technologies

The Ministry of Agriculture's Communication Officer highlights how media channels are pivotal in promoting modern agricultural technology. Through programs that showcase new farming techniques, machinery, and innovative solutions (e.g., precision agriculture, mechanization, etc.), media helps modernize farming practices. This includes the use of fertilizers, irrigation systems, and improved seed varieties. Media platforms like television, radio, and social media can reach farmers, especially in rural areas, to introduce them to new technologies that can increase productivity and sustainability.

iii. Advertising Agricultural Equipment and Inputs

The AGRIWEZESHA Spokesperson notes that advertisements in the media are used to feature new agricultural equipment, which is critical for enhancing productivity. This includes the promotion of tools such as tractors, harvesting machines, and irrigation systems. By showcasing such equipment, media helps farmers understand their benefits, availability, and the financial support mechanisms that may exist (e.g., government subsidies or loans). This can empower farmers to adopt new tools and improve their agricultural efficiency.

iv. Market Access and Connecting Farmers to Buyers

The Tanzania Broadcasting Corporation Marketing Officer emphasizes the role of media in connecting farmers with buyers. Through various media outlets, farmers can learn

about market trends, find buyers for their products, and gain access to fair prices. This is particularly important in rural areas where farmers may face challenges in finding reliable markets for their produce. By facilitating these connections, media plays a vital role in helping farmers secure better income, improve their market knowledge, and reduce the risks of exploitation by middlemen.

v. Education on Agricultural Inputs and Technologies

Mwananchi Communication Ltd's Journalist highlights that media serves an educational role, teaching farmers about available agricultural inputs (e.g., seeds, fertilizers, pesticides). In addition to general programs, media outlets frequently invite agricultural experts to provide insights through interviews, helping to raise awareness about the latest agricultural technologies. These programs equip farmers with the knowledge necessary to improve crop yields and adopt best practices for sustainable farming.

vi. Providing Information on Rural Development Policies and Funding

The Village Executive Officer from Msingisi & Ihenje Villages points out that media helps farmers and rural communities stay informed about rural development initiatives, including policies, budgets, and funding opportunities for agricultural projects. This is crucial for ensuring that rural farmers understand and take advantage of available support, such as government grants, loans, or technical assistance.

vii. Scholarships and Education Opportunities

The Village Chairman from Ibuti Village mentions that media also informs rural residents about scholarships, funding opportunities, and education programs. These opportunities are essential for capacity building and empowering rural youth, allowing them to pursue higher education or specialized training in agricultural sciences or other fields. Education is a key driver for sustainable rural development, and media acts as a bridge between farmers and these opportunities.

viii. Facilitating Connections Between Farmers and Policymakers

The IFAD Agriculture Officer underscores how media helps connect smallholder farmers with policymakers, ensuring that farmers' needs and challenges are communicated to

decision-makers. This two-way communication helps ensure that agricultural policies are farmer-centered, addressing real issues like access to credit, markets, and technology adoption. Furthermore, media serves as a feedback channel, allowing farmers to express concerns, which policymakers can address in future policies.

ix. Raising Awareness of Agricultural Policies

The Gairo District Agriculture Officer highlights that media outlets play a vital role in raising awareness about agricultural policies. This can help foster community support for policies related to poverty reduction and agricultural development. Through consistent messaging, media helps ensure that both farmers and other stakeholders, such as local governments and NGOs, are aligned with the national vision for agricultural transformation. The media in Tanzania plays an indispensable role in advancing agriculture and improving rural development. From providing weather information to promoting government policies, media outlets are critical for educating farmers, connecting them to markets, and facilitating dialogues between policymakers and farmers. As the agricultural landscape continues to evolve, media's contribution can be further amplified by focusing on interactive, localized, and farmer-driven content that addresses emerging challenges like climate change and financial access. By strengthening these efforts, media can continue to be a key enabler of sustainable agricultural development and economic empowerment in rural Tanzania.

CHAPTER 5

DISCUSSION

This chapter is divided into two sections. Section one focuses on presenting the discussion of the quantitative data collected through questionnaires administered to small-holder farmers in schedule form. Section two delves into the qualitative data. Therefore below is a detailed discussion based on an analysis of the meaning, importance, relevance, and how these findings relate to other literature reviews:

5.1 Quantitative Data Methods

This section discusses the findings derived from quantitative data gathered through structured questionnaires administered to smallholder farmers in the Morogoro region of Tanzania. The survey was conducted in a scheduled manner across three villages: Ibuti, Msingisi, and Ihenje in Gairo district. The section begins with the presentation of the objective one to the fourth objective.

A. Role of Media in Inculcating, Adaptation of Innovation and Barriers in Agriculture among Small Holder Farmers

i. Source of Media Used by Smallholder Farmers for Accessing Agricultural Information and Knowledge:

The meaning of this research finding indicates that smallholder farmers in Tanzania primarily rely on radio (79.4%) as their main source of agricultural information, with television being the secondary choice. This preference highlights radio's accessibility and relevance for farmers, especially in rural areas where other media sources like the internet may not be as widely available. While the Importance of this finding emphasizes the role of radio as a vital communication tool in disseminating agricultural knowledge. Given that radio can reach large audiences in remote areas without the need for expensive infrastructure, it remains a cost-effective and efficient means for agricultural extension services to communicate with farmers.

Moreover the Relevance of this finding directly informs the broader discussion on media and communication channels in agricultural extension and rural

development. Radio is often recognized as a critical platform for reaching low-income farmers in rural areas where other media might be less accessible (e.g., TV or internet). The preference for radio aligns with research by Mtega and Malekan (2009), who also highlighted radio's effectiveness in rural agricultural communication. Similarly relating to Other Literature Review, such as: Several studies have underscored the role of mass media, particularly radio, in rural agricultural knowledge dissemination. For example, Sife (2008) found that radio is a crucial medium for knowledge sharing in Tanzanian agriculture due to its widespread accessibility. This finding also aligns with Padi et al. (2016), who found that farmers in Sub-Saharan Africa prefer radio for its ability to transmit localized agricultural information.

ii. Preferred Media for Broadcasting Innovative Farming Methods

This finding shows that 80% of smallholder farmers prefer radio as the primary medium for broadcasting innovative farming techniques, while television is a secondary choice (20.8%). The preference for radio suggests that farmers trust it as a reliable and accessible source for learning new agricultural methods and its Importance is in the preference for radio to broadcast innovative farming methods signifies the importance of using established communication channels to introduce new agricultural technologies. Radio's ability to reach a wide audience makes it an effective tool for fostering change and encouraging the adoption of innovative farming practices.

Additionally, the Relevance of this finding aligns with research on the role of mass media in agricultural extension services, where radio is frequently mentioned as an ideal channel for promoting agricultural innovations due to its broad reach and relatively low cost. The FAO (2017) report on agricultural extension also found that radio was the most commonly used tool for promoting innovative agricultural practices, especially in developing countries. Likewise to the relating to Other Literature Review on the preference for radio is supported by literature such as Rural Radio Network (2011), which shows that radio is particularly useful for broadcasting innovative farming techniques, allowing farmers to gain valuable insights that can enhance their production. Padi et al.

(2016) also emphasize the importance of radio in disseminating innovative practices to farmers in rural areas.

iii. Relevance of Agricultural Knowledge from Mass Media

The study shows that 75.8% of farmers believe that agricultural knowledge gained from media (especially radio) is relevant to their daily farming activities. This indicates that media content aligns well with the practical needs of farmers, helping them apply the knowledge to improve their farming practices. Along with its Importance of this finding is crucial because it shows that media is not just a source of information, but a valuable tool for improving agricultural practices. Relevance is key to ensuring that farmers engage with and apply the information they receive. The more relevant the knowledge, the greater its potential to improve productivity.

Furthermore the relevance for this finding ties into the broader concept of effective agricultural communication. The content delivered through radio and other mass media should be practical, contextual, and actionable. This aligns with the findings of Mtega and Malekan (2009), who found that farmers value information that is directly applicable to their local conditions and practices. As well as the relating to Other Literature Review in Several studies have emphasized the importance of contextually relevant agricultural information. Rural Radio Network (2011) and Sife (2008) noted that mass media should focus on delivering locally relevant agricultural knowledge to ensure adoption. Research by Padi et al. (2016) also supports the idea that farmers benefit most when media content is aligned with their local needs and challenges.

iv. Do Media Meet Farmers' Information Needs?

The research shows that 77.1% of respondents believe that the media they use adequately meet their information needs, suggesting that mass media plays an important role in providing useful agricultural knowledge to farmers. And its Importance of the ability of media to meet farmers' needs is crucial for its effectiveness in driving agricultural change. When media content is aligned with

the information needs of farmers, it enhances the likelihood that farmers will act on the advice or knowledge provided, which in turn can improve agricultural outcomes.

In addition, the relevance of this finding connects with the broader literature on media's role in agricultural development. For media to be effective, it must align with farmers' needs and challenges. This ties in with studies by Mtega and Malekan (2009), which stressed that media content should address the specific agricultural needs and issues faced by farmers to ensure successful adoption of new practices. While the relating to Other Literature Review in the effectiveness of media in meeting farmers' needs is discussed in the FAO (2017) report on agricultural extension, which highlighted the importance of tailoring media content to the specific needs of farmers. Padi et al. (2016) also emphasized the necessity of understanding local farming practices to ensure that the media's content is relevant and useful for farmers.

v. Impact of Media on Agricultural Production and Adoption of New Practices

The study proves that a significant majority (89.8%) of farmers agree that agricultural communication through media helps boost production and the adoption of new farming practices. This indicates that media serves as a catalyst for positive change in farming productivity and practices. Along with the Importance of this finding reinforces the idea that mass media, particularly radio, can be a powerful tool in driving agricultural innovation. By informing farmers about new methods and practices, media can directly influence farm productivity and the wider adoption of better agricultural techniques.

But, the relevance: This finding aligns with the theoretical framework of agricultural extension. Mass media has long been recognized as an essential tool in promoting agricultural technologies, and the significant impact on adoption and productivity underscores the role media plays in extension services. This finding is consistent with Sife (2008), who emphasized that media communication, particularly radio, plays an important role in improving agricultural production through the dissemination of new practices. Likely to the

relating to Other Literature Review on the relationship between media and agricultural outcomes is supported by Rural Radio Network (2011), which discusses how media, especially radio, can influence the adoption of new farming practices and improve productivity. Padi et al. (2016) also highlight that media is essential for transmitting new techniques, which can boost agricultural production.

vi. Challenges in Accessing Agricultural Information from Mass Media

Also, the research shows that Farmers face significant challenges in accessing agricultural information via media, including the high cost of media devices (e.g., radios, televisions), poor signal reception, and limited infrastructure in rural areas. While the Importance of this finding points to critical barriers that need to be addressed to improve farmers' access to essential agricultural information. Addressing these challenges is crucial for ensuring that media can effectively reach farmers and have a positive impact on agricultural development.

Moreover the relevance to this finding is highly relevant in the context of digital divide and information accessibility. Many studies, such as Mtega and Malekan (2009), have pointed out that the lack of infrastructure (e.g., electricity, mobile network coverage) in rural areas hinders farmers' ability to access agricultural media. This finding highlights the need for targeted interventions to improve access to media content. As well as the relating to Other Literature Review on the challenges related to access are well-documented in the literature. Sife (2008) and Mtega and Malekan (2009) both discuss how poor infrastructure (electricity, signal quality) limits the effectiveness of media in rural areas. The FAO (2017) report also emphasized that improving access to information, particularly in rural and underserved areas, is essential for the success of agricultural media programs.

These research findings align closely with the broader literature on media's role in agricultural development and communication for rural extension services. They underscore the importance of mass media, especially radio, as an effective tool for

disseminating agricultural knowledge, fostering innovation, and improving productivity. However, barriers such as poor infrastructure and high costs need to be addressed for media to fully realize its potential. Studies from Mtega and Malekan (2009), Sife (2008), and Rural Radio Network (2011) provide additional context to these findings, supporting the view that while media is essential for agricultural change, its impact depends on overcoming the challenges that hinder accessibility, especially in rural areas.

B: The Transformation of Agricultural Practices in Rural Areas through Media

i. Improved Harvests After Implementing Farming Practices Learned from Media Sources

The study shows that 69.3% of farmers reported experiencing improved harvests after applying farming practices they learned through media sources. This indicates that media plays a crucial role in transmitting agricultural knowledge that can directly lead to better farming outcomes. And the importance of this finding underscores the impact that media can have on agricultural productivity. When farmers are able to access practical, relevant farming information through media and apply it successfully, it can result in tangible improvements in yields, which is essential for food security and economic growth.

This demonstrates with the relevance of this result aligns with the broader concept of media's role in agricultural extension. Media-based education programs that offer new farming techniques or practices can directly translate into increased productivity and income for farmers. Similar findings in the literature support the idea that access to agricultural media knowledge can lead to improvements in farming outcomes, as discussed by Padi et al. (2016). As well as the relating to Other Literature Review: Studies by Rural Radio Network (2011) and Mtega and Malekan (2009) highlight the positive correlation between access to agricultural information via media and improved farm productivity. The findings here reinforce this relationship, suggesting that media serves as an effective tool for agricultural extension. However, the income variable introduces an interesting distinction, as income levels seem to play a significant role in how effectively the media knowledge is applied, which connects to Mtega's (2011) assertion that

farmers' socio-economic status can influence the impact of media on agricultural practices.

ii. Sharing Farming Methods and Skills with Other Farmers

This research proves that 77.1% of respondents reported sharing the farming methods and practices they learned from media sources with other farmers. This suggests that media not only helps individual farmers but also facilitates the spread of knowledge within the farming community. Additionally to its importance of this finding highlights the multiplying effect of media-based agricultural education. When farmers share the practices they've learned, it creates a ripple effect, where new farming knowledge disseminates among a wider network of farmers, potentially leading to widespread improvements in agricultural practices within the community.

This further illustrates the relevance of this finding underscores the social dynamics of knowledge transfer. In rural communities, peer-to-peer learning is common, and media sources act as the starting point for the spread of farming innovations. This is particularly relevant in the context of extension services, where local farmers play a key role in disseminating information to others. The FAO (2017) and Rural Radio Network (2011) also emphasize the role of social networks in the adoption of new agricultural practices. Similarly to the relating to Other Literature Review: Sife (2008) emphasizes that farmers in rural areas are more likely to adopt new practices when they observe their peers benefiting from them. The Rural Radio Network (2011) also noted that sharing knowledge among peers amplifies the effectiveness of media-based agricultural learning. However, the role of income in this process suggests that wealthier farmers may be more likely to adopt and share new practices, as they can afford the initial investment in new methods.

iii. Introducing New Crops or Farming Methods After Exposure to Agricultural Programs

The study shows that 52.9% of smallholder farmers introduced new crops or farming methods after being exposed to agricultural programs via media. This finding shows that media exposure can motivate farmers to experiment with new farming techniques and crops, leading to agricultural diversification and innovation. Along with the importance of this finding is significant because it indicates that media can inspire farmers to make changes in their farming systems, which can increase resilience to climate change, improve food security, and enhance income generation. The introduction of new crops or farming methods is often a key strategy for improving sustainability in agriculture.

Furthermore the relevance of this finding connects to innovative agricultural practices and the role of media in promoting them. When farmers are introduced to new practices via media, they are more likely to experiment with them. This mirrors findings by Padi et al. (2016), who noted that media programs help foster innovation by exposing farmers to new ideas and practices. As well as the relating to Other Literature Review such as; Sife (2008) and Mtega and Malekan (2009) argue that exposure to new farming methods through media is crucial for improving agricultural diversity. However, income again appears to play a role in how farmers are able to implement and benefit from these new methods, suggesting that wealthier farmers are better positioned to take risks and adopt new crops or techniques.

iv. New Farming Skills Gained from Media Increasing Harvest and Profit

The research proves that 58.6% of farmers reported that the new farming skills they acquired from media helped increase both harvests and profits. This indicates that media-based agricultural education directly contributes to improving farm productivity and profitability. And its importance to this finding underscores the potential of media as an agricultural development tool that not only educates farmers but also has a direct impact on improving their economic outcomes. By

acquiring new skills, farmers can adopt more efficient or sustainable practices that lead to higher yields and better financial returns.

Moreover the relevance of this finding links directly to the broader concept of media as a tool for rural economic development. By improving productivity and profitability, media can play a key role in poverty reduction and economic growth in rural areas. FAO (2017) also highlights that improving farm productivity is a core objective of agricultural extension services, and media can be an effective platform for delivering such knowledge, which is similarly to the relating to Other Literature Review: The connection between media and improved profitability is echoed in Mtega and Malekan (2009), who found that farmers who accessed relevant agricultural media knowledge were more likely to see improved productivity. Additionally, Sife (2008) supports the notion that media can improve profitability, particularly when the skills and practices shared through media are adopted and well-executed. Income as a factor here suggests that the impact may vary based on the farmer's financial capacity to implement the learned practices.

v. Support or Follow-up from Agriculture Offices

Only 38% of farmers reported receiving support or follow-up from agriculture offices at various levels when trying to implement farming practices they learned through media. This suggests that while media plays a significant role in providing information, there is a gap in terms of institutional support and follow-up to ensure that knowledge is successfully implemented. While the importance of this finding highlights the gap in support systems for farmers. While media-based information may be helpful, the lack of follow-up from agricultural extension services may limit the effectiveness of that knowledge. Extension services are essential for providing hands-on support, training, and resources that are needed for farmers to fully implement new techniques and practices.

In addition the relevance of this finding is significant in understanding the complementary role of media and extension services. Media can effectively spread agricultural knowledge, but without adequate support from local or

national agricultural offices, the adoption of new practices may be hindered. This finding aligns with Sife (2008) and Mtega and Malekan (2009), who emphasized that media programs alone are not enough; follow-up support is essential for effective implementation of new practices whereby it is likely to be relating to Other Literature Review: FAO (2017) reports that the success of media-based agricultural programs is significantly enhanced when coupled with effective extension services and follow-up. Sife (2008) found that a lack of institutional support often led to poor implementation of media-learned practices. Mtega and Malekan (2009) also highlighted that effective agricultural extension services are critical to translating knowledge from media into practice, reinforcing the idea that institutional follow-up is essential for sustainable agricultural development.

These research findings align with existing literature on the importance of media-based agricultural education and extension services. Media, especially radio, plays a crucial role in improving agricultural knowledge, increasing productivity, and fostering innovation among farmers. However, challenges such as insufficient institutional support, financial limitations, and income disparities are identified as key factors influencing the effectiveness of media-based knowledge dissemination. To maximize the impact of agricultural media programs, follow-up support from agricultural offices and extension services is necessary. The relationship between income and the effectiveness of these practices also suggests that socioeconomic factors should be considered when designing and implementing agricultural media interventions.

C: Communication Strategies Being Used by Various Agencies to Promote Agriculture

i. Familiarity with Non-Governmental Organizations (NGOs) Promoting Agricultural Development

While the 46.9% of farmers are aware of non-governmental organizations (NGOs) that promote agricultural development, highlighting the role of NGOs in supporting farming communities and the importance of this finding is NGOs play

an important role in agricultural development by offering support, resources, and programs that help improve farming practices. The awareness of such organizations is key to understanding how smallholder farmers can access alternative sources of agricultural support beyond government services.

Additionally, the relevance: This finding highlights the complementary role that NGOs play in supporting agricultural development alongside government initiatives. It emphasizes the multi-sectoral approach to agricultural development, where various actors, including NGOs, collaborate to reach farmers and promote better practices, as well as the relating to Other Literature on NGO involvement in agriculture, such as the work by Mtega and Malekan (2009), shows that NGOs often bridge gaps in government services, particularly in rural areas, providing essential resources like training, seeds, and technical assistance. The income-related significance in this finding indicates that wealthier farmers might have more access to information about NGOs, aligning with findings by Sife (2008) on the socioeconomic factors affecting farmers' access to agricultural support.

ii. Awareness of NGOs Promoting Agricultural Development

The research shows that 33.2% of respondents became aware of agricultural NGOs through direct visits by NGO representatives, while 25.8% learned about them via agricultural extension officers. This shows that personal interactions are a key channel for disseminating information about NGOs. Indeed with its importance on Understanding how farmers become aware of NGO activities is crucial for improving the effectiveness of outreach programs. It suggests that direct engagement—such as visits by NGO representatives or extension officers—is an important method for NGOs to establish connections with farmers.

Again the relevance of the findings reinforce the importance of personalized outreach methods in agricultural development. Personal visits and interactions with agricultural extension officers are often more effective in rural areas, where access to media and internet services might be limited. Although the relating to Other Literature Review of this aligns with findings from Mtega and Malekan (2009), who noted that face-to-face interactions are often more effective in rural

communities than media outreach. Sife (2008) also highlights the importance of extension workers and their role in facilitating knowledge transfer and awareness in agriculture.

iii. Methods Employed by NGOs to Promote Agricultural Development

The 62.2% of farmers noted that NGOs use seminars, and 51.6% mentioned training sessions as common methods for promoting agricultural development. These methods serve to educate farmers and improve agricultural practices. Correspondingly to the importance of this finding highlights that seminars and training sessions are widely recognized as effective tools for educating farmers. They provide direct, hands-on learning experiences that can significantly impact farming practices.

Also the relevance of this finding connects with adult education theories and extension services. Seminars and training are key components of many agricultural extension programs, which are designed to enhance farmers' skills, knowledge, and practices. Regarding to the relating to Other Literature Review: This matches the findings from Sife (2008) and FAO (2017), which emphasize that training and seminars are effective tools for disseminating agricultural knowledge. The sex-based relationship for training methods suggests that gender might influence how different methods are received or perceived, which is consistent with Mtega and Malekan's (2009) research on gender differences in agricultural learning.

iv. Support Provided by NGOs for Agricultural Improvement

57% of respondents reported receiving support from NGOs for agricultural development. This reflects the tangible impact that NGOs have on farmers, helping them improve their practices and productivity. Similarly to its importance such as the support from NGOs is critical for filling gaps in government services, especially in areas where government resources are limited. The finding indicates that NGOs are an important resource for farmers, providing the support needed to enhance agricultural practices and livelihoods.

On the other hand, the relevance of this supports the broader concept of NGO involvement in development, where organizations contribute significantly to agricultural growth, especially in under-served rural areas. As well as the relating to Other Literature such as Mtega and Malekan (2009) shows that NGOs are a key source of support for smallholder farmers, particularly when government extension services are inadequate. Sife (2008) and FAO (2017) also emphasize the need for NGOs in addressing agricultural challenges and improving productivity.

v. Types of Support Provided by NGOs to Enhance Agriculture

The most common forms of support provided by NGOs are seeds (43.5%) and manure (33.1%), both of which are crucial for improving soil fertility and crop yields. Together with its importance of this shows that NGOs play an essential role in material support for farmers, providing them with the tools and resources needed to improve agricultural production. Seeds suited to local conditions and manure for soil enhancement are fundamental resources for enhancing farm productivity.

Furthermore the relevance of these forms of support are aligned with the sustainable agricultural practices approach. They not only address immediate needs but also contribute to long-term improvements in farm sustainability and productivity. This reflects organic farming principles and environmentally friendly agricultural practices that are increasingly promoted by NGOs. Although the relating to Other Literature Review such as Sife (2008) and Mtega and Malekan (2009) discuss the role of NGOs in providing inputs like seeds and training to enhance productivity. FAO (2017) also highlights the importance of input distribution as a means of supporting agricultural development, particularly in low-resource settings.

vi. Contribution of NGO Support to Improving Agriculture

The study reveals that 54.7% of respondents reported that the support from NGOs significantly contributes to improving agricultural practices, leading to better

yields and increased profits. And this finding demonstrates that the support provided by NGOs has a direct and positive impact on agricultural productivity, which is key for farmers' economic sustainability and for improving food security.

In addition to that the relevance of this result highlights the importance of NGO support in driving agricultural development, particularly in rural areas. The finding reinforces the idea that external support, in the form of resources, training, and technical assistance, is critical for improving farmers' practices and livelihoods. Whereby the relating to Other Literature Review on the role of NGOs in agricultural development is well-documented in literature. Mtega and Malekan (2009) and Sife (2008) argue that NGOs fill vital gaps in rural development, often providing support that is not available through government channels. FAO (2017) also supports this notion, noting that NGOs often play an essential role in improving farm productivity by providing direct material support and training, which leads to better agricultural outcomes.

These findings emphasize the significant role of NGOs in promoting agricultural development through direct support, training, and provision of materials such as seeds and manure. The relationship between income and the effectiveness of these interventions suggests that socioeconomic factors influence the accessibility and impact of NGO support. Training methods, such as seminars, have been identified as effective in disseminating agricultural knowledge, consistent with the broader literature on agricultural extension. NGOs provide a critical complementary role to government efforts, particularly in rural areas, and their support is essential for improving smallholder farmers' productivity and economic sustainability. The findings also underscore the importance of personalized outreach and direct engagement with farmers to raise awareness and foster the adoption of new agricultural practices.

D. Role Of Media in the Development of the Rural Areas

i. Media Contribution to Understanding Rural Development

49% of respondents agreed that media plays a role in raising awareness and improving understanding of rural development issues. This suggests that media is seen as a valuable tool in shaping perceptions and spreading information about rural development. As well as the Media serves as a powerful communication tool for educating the public about rural development and increasing awareness about issues like poverty, infrastructure, and sustainable practices. Acknowledging media's role is crucial for enhancing community engagement in rural development efforts.

But the relevance of this finding indicates that media can act as a bridge between policymakers, NGOs, and rural communities, helping to inform and mobilize communities about important rural development issues. The importance of media literacy is underscored, as an informed public is more likely to participate in development initiatives and demand accountability from authorities. Although the relating to other Literature Review on the role of media in development has been well-established in literature. For example, Servaes (1999) highlights the potential of media to drive social change and foster community participation. Sife (2008) also emphasizes that media can be a key tool in spreading agricultural knowledge and development programs in rural areas. Media engagement is essential for raising awareness and ensuring that rural development policies reach the grassroots level.

ii. Media Coverage of Government/NGO Policies on Rural Development

The research proves that, 55.7% of farmers expressed uncertainty regarding whether media accurately reports on government and NGO policies related to rural development. This shows a gap in media coverage and suggests that farmers may not fully trust or are unaware of how policies are being communicated. Along with its Clear and accurate media coverage of government and NGO policies is essential for informing farmers about development programs and how they can benefit from them. The uncertainty expressed by respondents indicates a

potential information gap that could hinder effective policy implementation and farmers' access to relevant programs.

Also the relevance of this finding underscores the need for improved media-government collaborations to ensure accurate and consistent coverage of policies. If farmers are uncertain about these policies, their ability to access support, such as subsidies, training, or new agricultural technologies, could be compromised. Even though the relating to Other Literature Review such as Mtega and Malekan (2009) found that inadequate media coverage of policy issues can impede the dissemination of important information to rural populations. Sife (2008) also notes that media's role in spreading information about government initiatives can be critical for their success, and FAO (2017) stresses the need for reliable media coverage to reach rural communities with key development policies.

iii. Media Coverage of Rural Development Budget

A significant portion of respondents (58.1%) reported being unaware of whether the media provides information about the development budget allocated to rural areas. This suggests a lack of transparency or insufficient media coverage regarding financial resources for rural development and the Understanding the development budget is crucial for farmers to know how resources are being allocated to support rural infrastructure, agricultural subsidies, and other essential services. The lack of media coverage in this area limits transparency and accountability, hindering public participation and oversight.

Regarding to the relevance of this finding highlights the importance of budget transparency in the media, as it enables farmers to make informed decisions and engage with the development process. Media plays a critical role in monitoring the implementation of public policies and ensuring that allocated funds reach the intended beneficiaries. Correspondingly to the relating to Other Literature Review, for instance; Sife (2008) and Mtega and Malekan (2009) underscore the importance of financial transparency in development initiatives and the need for media to hold both governments and NGOs accountable. According to FAO (2017), media coverage of the rural development budget can promote public

accountability and ensure that financial resources are used efficiently to support agricultural and rural development goals.

iv. Media Engagement with Participatory Approaches in Development

Half of the respondents (50%) were uncertain about whether the media effectively uses participatory communication approaches, while 42% agreed that media engages well with participatory rural appraisal methods. This indicates mixed perceptions about how media engages the public in rural development initiatives and the Participatory approaches involve involving communities in decision-making processes. Media engagement with these approaches helps ensure that rural communities have a voice in their own development, making initiatives more relevant and successful.

While the relevance of this finding suggests that while there is some acknowledgment of the media's role in promoting participatory development, there is still uncertainty about how effectively this is happening. The media could play a more significant role in empowering communities through interactive communication, such as community radio or social media platforms, where farmers can directly engage with content. However the relating to Other Literature Review on the importance of participatory communication is highlighted in Servaes (1999) and Sife (2008), which stress the need for media to act as a platform for dialogue, rather than just as a one-way channel of information. FAO (2017) also supports the use of participatory approaches in media to ensure that rural communities are actively involved in their own development processes, leading to more sustainable outcomes.

v. Media Outreach for Rural Development Projects

The study shows that; 53.9% of respondents expressed uncertainty about whether media is effective in bringing rural development projects to the community level, indicating that many farmers may not feel directly engaged with or aware of media-driven rural development initiatives along with the Media outreach is essential for ensuring that rural development projects reach their intended

beneficiaries. If farmers are not aware of such projects, the efforts to improve rural development and agricultural practices might not have the desired impact.

This finding emphasizes the need for effective media outreach that connects development projects with rural communities. It suggests that media, particularly local radio and community outreach programs, need to enhance their engagement strategies to ensure farmers are informed about and can participate in relevant development initiatives. Similarly to the relating to Other Literature on media outreach and development communication, including Servaes (1999), highlights that media plays a pivotal role in ensuring that rural communities are aware of, and can participate in, development programs. Sife (2008) and FAO (2017) also underscore the need for targeted media efforts that bridge the gap between development projects and rural farmers to ensure effective participation and impact.

These findings emphasize the role of media in raising awareness, communicating policies, and engaging rural communities in development efforts. The uncertainty expressed by farmers in various areas—such as the coverage of rural development budgets, government/NGO policies, and participatory approaches—reveals a need for more transparent, effective, and inclusive media practices. Media must go beyond just broadcasting information and engage communities through interactive and participatory methods to ensure that rural populations are well-informed and actively involved in their own development. Additionally, addressing gaps in financial transparency and ensuring direct engagement with development projects are key to improving the effectiveness of rural development media coverage.

Section Two – Qualitative Data Methods

This section focuses on the qualitative data collected through interviews with agriculture government officials and representatives from both private and government-owned media. The analysis of this data was conducted in tables and descriptively, addressing the following Objectives:

i. The role of media in inculcating adaptation of innovation and barriers in agriculture among small holder farmers of Tanzania.

The media serves as a crucial communication channel for disseminating agricultural information and fostering innovation adoption among smallholder farmers in Tanzania. Through platforms such as radio and television, the media plays a vital role in promoting agricultural modernization and poverty reduction initiatives. Additionally, it facilitates the dissemination of relevant news and information from the Ministry of Agriculture and various Non-Governmental Organizations dedicated to agricultural development in the country.

Additionally, the media plays a crucial role in disseminating information about new developments in the agriculture sector that can benefit small-scale farmers. This includes modern agricultural practices and the application of new technologies such as irrigation systems and harvesting machines. By sharing such information, the media helps facilitate the adoption of modern techniques and technologies among small-scale farmers in Tanzania.

However, despite the positive contributions of the media, there are challenges that hinder both small-scale farmers and the Ministry of Agriculture in Tanzania. One significant challenge is inadequate communication and cultural barriers. Small-scale farmers may hold beliefs that hinder the adoption of modern practices and technologies, fearing that they may harm their land or health. Overcoming these barriers requires targeted communication strategies and efforts to address cultural misconceptions about modern agricultural practices.

The collaboration between the National Irrigation Commission and media outlets signifies a significant effort by the Tanzanian government to promote rural development. By working together, these entities aim to support small-scale farmers in improving productivity, increasing their incomes, and promoting sustainable agricultural practices. This collaboration highlights the importance of partnership and coordination between government agencies and media organizations in addressing agricultural challenges and fostering development in rural areas.

“The statement from Alkelaus Mutta Ishengoma, an agriculture official from the Ministry of Agriculture in Tanzania, underscores the vital role of the media in driving agricultural innovation and rural development. It highlights how media channels serve as effective platforms for disseminating information and promoting modern practices and technologies among smallholder farmers. Despite existing challenges such as limited access and cultural barriers, the media's efforts contribute significantly to enhancing productivity, boosting incomes, and promoting sustainability in agriculture. The ongoing collaboration between the National Irrigation Commission and media outlets is recognized as crucial for furthering these positive impacts and advancing agricultural development in Tanzania.”

Furthermore, the Non Governmental Organizations (NGOs) declared that they do use also the media in order to reach more farmers on educating, informing different issues concerning agriculture and markets for their products. This was cleared by the spokesperson of one of the NGO which deals with Agriculture development in Tanzania known as ‘AGRIWEZESHA’

AGRIWEZESHA is a nongovernmental organization which has been found and registered in 2019 under the non government organization Act of 2022 of Tanzania.

“Well our main goal is to work very closely with the small holder farmers in Tanzania in order to enhance the agricultural products by giving out the education, training, seminars, consultations concerning the modern farming practices along with improving the farmers’ market connections. And this has been done physically and through different agriculture programs and advertisements on the media” (Martha, a spokesperson of the AGRIWEZESHA in Tanzania)

Moreover on the side of Media, the representative from the Tanzania Broadcasting Corporation (TBC) which is the national television in Tanzania gives much priorities on their programs on health and Agriculture because they do believe that Agriculture is a backbone of the Country’s economy and if its people are having enough food and best products for business well the Country also will develop and its economy will increase.

“We as the National Broadcasting media, we develop and implement the programs which support farmers especially the small holder farmers with their lively hoods, we initiate programs which guarantee the food security to farmers in Tanzania”. (Rehema Komba, Markerting Officer-TBC)

ii. Changes in agriculture practices in rural areas of Tanzania through media.

The changes in agricultural practices in rural areas of Tanzania facilitated by media include the adoption of modern technology and agricultural inputs, leading to increased productivity and better yields. Small-scale farmers have transitioned from manual tools to mechanization, utilizing animal traction and motorized equipment such as tractors for digging and sowing processes. Additionally, automation techniques, particularly in transplanting fruit trees like oranges and avocados, have been implemented.

Furthermore, the application of agricultural inputs such as fertilizers and pesticides has become prevalent among small-scale farmers. Fertilizers aid in boosting plant growth and enhancing production, resulting in improved yields. Pesticides play a crucial role in pest and disease management, helping farmers protect their crops from insects and fungi, thereby promoting plant health and increasing output. These changes signify positive progress in the agriculture sector, facilitated by media dissemination of information and innovation.

The rise of irrigation farming has been a significant development in rural areas of Tanzania, benefiting small-scale farmers by ensuring consistent crop yields even during periods of low rainfall. With irrigation, farmers can sustainably water their crops during dry spells, promoting healthy growth and enhancing overall productivity. This adoption of irrigation aligns with the principles of climate-smart agriculture, where farmers adapt to changing environmental conditions and mitigate climate-related risks, ensuring continued agricultural production.

Additionally, there has been a notable shift away from the use of traditional seeds among small-scale farmers. Previously, farmers would save seeds from their harvest and reuse them in subsequent planting seasons. However, with increased education and awareness about the limitations of traditional seeds, farmers are now choosing to discard them. This change reflects a growing understanding of the advantages of modern seeds, which often

offer improved yields, resilience to pests and diseases, and other beneficial traits. By embracing modern seed varieties, small-scale farmers can enhance the quality and quantity of their harvests, contributing to food security and economic prosperity in rural communities.

“As the Ministry of Agriculture in Tanzania, our primary goal is to empower farmers, particularly smallholders, to improve their agricultural practices and livelihoods. We achieve this through various initiatives aimed at promoting the adoption of modern agricultural technologies and best practices. One key aspect of our approach is to provide education, information, and training to farmers, emphasizing the importance and benefits of using modern technology. We encourage farmers to adopt modern agricultural inputs such as fertilizers and pesticides to enhance soil fertility, control pests and diseases, and ultimately increase crop yields. Additionally, we promote the adoption of irrigation farming techniques to mitigate the impact of erratic rainfall patterns and ensure consistent crop production. Furthermore, we advocate for the adoption of climate-smart agriculture practices, which focus on enhancing resilience to climate change while promoting sustainable agricultural development. By incorporating climate-smart techniques such as agroforestry, soil conservation, and water management, farmers can adapt to changing climatic conditions and reduce their vulnerability to environmental risks.” (Mndolwa, the Agriculture Official from the Ministry of Agriculture in Tanzania)

Such points were supported by the villages' leaders that, they agreed there are some changes in agriculture practices occurred in their villages through their people by applying the new methods and techniques which they heard and saw from the media, especially radio (Mkombozi radio), moreover apart from media agricultural programs, village people also prefer physical visiting of the Agriculture officers and extensions for offering them education and training concerning agriculture practices such as 'Shamba darasa' this means a small area is isolated and being used for the practical teaching on applying new innovation technologies and so on, so that people can see how to do and the results too physically.

“people here are practicing new methods, techniques such as irrigation system in agriculture, on how to serve their yields in a special sacks for staying longer without being destructed by pest and even using the seeds and fertilizers which have been advised on different programs according to the texture of soil which is similar to ours and we do harvest the good yields at all, so there is nothing bad on proceeding practice those ones as they bring more harvests and benefits, but as we all know that; the

introduction for the new things such as technology is a process so it needs patience and will benefit more”.(Zakayo Kobadi-Ibuti Village Chairman)

iii. Communication strategies being used by various agencies to promote agriculture.

a. What diverse communication strategies does the Government of Tanzania employ to advance agricultural promotion?

The Tanzanian government employs various communication strategies through the Ministry of Agriculture to enhance agricultural promotion across the country. These strategies include leveraging social media platforms like Facebook and Instagram under the Ministry of Agriculture's name to disseminate information and advertisements regarding agricultural matters to the general public. Additionally, the establishment of "Kilimo Television" ensures that agricultural issues are the sole focus of this channel's broadcasts. Agricultural programs on traditional media platforms such as radio and television further contribute to the dissemination of agricultural knowledge. However, it's worth noting that smallholder farmers primarily rely on radio and television for agricultural information, with limited engagement on social media. This situation tends to benefit urban populations more than smallholder farmers.

The government has established a dedicated Communication Unit within various departments, including the Ministry of Agriculture, aimed at promoting agricultural-related issues. This initiative serves to assist farmers in enhancing their agricultural practices and provides them with a platform to address any challenges they encounter. By fostering effective communication channels, farmers can engage with the department to seek solutions to their agricultural issues.

The Ministry of Agriculture in Tanzania, along with Non-Governmental Organizations (NGOs) dedicated to promoting agricultural development, actively participate in public events such as 'Nanene'. These events are farmer exhibitions held across Tanzania from August 1st to 10th every year, providing farmers with opportunities to showcase their products. Additionally, these organizations utilize events like World Food Day to promote agricultural-related agendas and initiatives.

Public forums such as farmers' union gatherings serve as platforms to advance agricultural agendas. The Ministry of Agriculture, in collaboration with agricultural

stakeholders, leverages these forums to address the challenges faced by farmers during agricultural practices. By facilitating discussions and offering solutions, they promote agricultural agendas that benefit both farmers and the government. This collaboration aims to enhance agricultural productivity, increase profits for farmers, and contribute to poverty reduction efforts, fostering mutual development and pride among stakeholders.

“The Tanzanian government, through the Ministry of Agriculture, employs various communication strategies to promote agriculture. These include utilizing social media platforms dedicated to agriculture promotion and establishing Government Communication Units within government departments, including the Ministry of Agriculture, to address agriculture-related issues. Additionally, the government leverages public events such as Nanenane and World Food Day to promote agricultural agendas and engages in public forums like farmers' union gatherings to advocate for agricultural initiatives. Furthermore, the establishment of Kilimo Television serves as a dedicated channel for disseminating agricultural content.” (Daudi- Communication Officer of the Ministry of Agriculture in Tanzania)

- b. On the other side of the Non Governmental Organization, the same question were asked such as What diverse communication strategies does the NGOs employ to advance agricultural promotion?

Representatives of some NGOs which are dealing with the development of agriculture in Tanzania declared that, they use different communication strategies to reach farmers especially small holder farmers for the purpose of educating and informing about agriculture in general especial on innovation of new technologies, markets of their products and pest management along with weather forecast for their agriculture activities. And those communication strategies used by them are as the following; exhibitions during the public events such as ‘Nanenane’ exhibition whereby it occurs every August of the year in every region in Tanzania and farmers along with their stake holders are exhibiting their work for the progress and others can learn from them. Along with that, they do use media for broadcasting their agriculture programs and advertisements concerning the agriculture issues just for promoting Agriculture agenda.

One of the NGO known as an International Fund for Agricultural Development (IFAD) which is an international fund for the agriculture development and is an agency of the United Nations, that has been founded in 1977 in Rome, Italy but also it has its office in Tanzania and they collaborate with the Government of Tanzania in assisting vulnerable groups such as the small holder farmers and small scale entrepreneurs in rural areas and eradicating the poverty in rural areas.

“We invest much to the rural society by empowering them to increase their food security and incomes through providing them supports on irrigation schemes from the permanent rivers, seasonal water along with the dams.” (Godwin Makori-Agriculture Officer works with IFAD in Tanzania)

iv. Role of media in the development of the rural areas in Tanzania.

The media plays a significant role in rural and agricultural development in Tanzania by raising awareness about market trends and crop yields. Through various platforms, it facilitates connections between buyers and farmers, enabling farmers to sell their products at favorable prices. This contributes to their development and helps alleviate poverty within their communities and the broader rural areas.

Furthermore, the media promotes modern agricultural technology through various channels, including agricultural programs on air that highlight technological advancements applicable to farming practices. Additionally, advertisements feature new agricultural equipment aimed at enhancing productivity. The media also educates farmers on available agricultural inputs and invites agricultural stakeholders for interviews to inform farmers about the latest technologies that can improve yields and agricultural practices.

“As media practitioners, our primary role encompasses education, information dissemination, critique, and entertainment within society. In the context of rural and agricultural development, media serves to promote modern agricultural technology and available agricultural inputs, while also raising awareness about market trends.” (Ben-Journalist from the private owned media and a blogger)

Furthermore, media outlets in Tanzania play a crucial role in disseminating information about weather changes, enabling farmers to make informed decisions about their

agricultural practices in response to changing weather conditions. Additionally, media channels are responsible for promoting government policies related to agriculture, which aim to benefit farmers and contribute to rural development by reducing poverty.

Facilitating a connection between smallholder farmers and policymakers, media serves as a vital conduit for ensuring that agricultural policies address the needs and concerns of farmers. By promoting agricultural policies through various channels, media helps raise awareness among stakeholders, fostering adherence to policies aimed at agricultural development and poverty reduction within society.

“The media plays a crucial role in enhancing the standard of living for the public, particularly in the context of rural and agricultural development. It disseminates vital information about weather changes, highlights available options for agricultural inputs, and promotes government policies related to agriculture. Additionally, the media acts as a bridge between rural farmers and policymakers, ensuring that the concerns and needs of farmers are considered in policy decision-making processes.” (Celina, Journalist from the Government owned media)

On top of that, villages’ leaders also declared that media contribute to the advancement of agriculture and rural areas by saying that when people listen and/or watch the different programs from the media about their development, they won’t be sitting but they do take initiatives through discussing to each other and ask assistance if necessary to the expertise concerning what they have heard and watch and start practicing as they have been directed for the better outcomes.

“rural areas people are smart nowadays, because once they listen and/watch anything which is for their interest and development from the media, they do make follow up concerning the particular issue, for example there were government announcement for offering financial support and training for small holder farmers to learn different innovations in agriculture and they made follow ups from us village leaders and we communicate with district level until National wise and some of them (small holder farmers) were taken to the different institutions such as SIDO and VETA for learning different ways on packing products from farms and how to use the agricultural machines such as tractors, and irrigation schemes.” (Jasmini Chuma-Village Executive Officer, Msingisi Village)

Types of media in accessing agriculture information

Radio: Launched in August 2020, MVIWATA FM is a Tanzanian small-scale farmers' group radio program financed by the Forest and Farm Facility (FFF), collaboration with the Food and Agriculture Organization (FAO) of the United Nations. This radio station was created specifically to assist farmers in developing their farming skills and to offer agricultural advisory services to small-scale farmers in particular, to help them grow. The farmers have benefited from educational programs and information sessions, as well as support from the community at large.

The recordings of the agricultural community group meetings are broadcast on the radio shows created by the group of journalism and agriculture experts who collaborate closely with MVIWATA and its broadcast channels. A program called "Better production, better lives for the farmers' family" greatly aids farmers in enhancing farm prep and pest control, so enabling them to guarantee larger and more abundant yields. A different program known as "Uzalishaji endelevu," or "Sustainable production," instructs farmers on integrated pest management, low-cost methods, and efficient horticulture farming practices. Themes from other programs include social responsibility, market access, crop diversity, and how to resolve land issues. (United Nations Food and Agriculture Organization, 2022).

FARM RADIO is creating training materials and programs for farmers in several African nations, including Tanzania, Ghana, Malawi, Kenya, Burkina Faso, Uganda, and Ethiopia. It greatly encourages two-way conversations with farmers and policy leaders, which are then utilized in further TV programs. A 30-minute interactive program on improving vegetable production is one of the shows on this radio station. A radio host asks listeners questions about agriculture on a weekly basis, covering topics such as the advantages of growing and eating vegetables, how to produce them for the market, how to manage soil fertility, and how to prepare the seasonal production calendar. At the moment, it reaches about 70,000 farmers, and 69% of them apply the knowledge they have gained from it. (Farm Radio Tanzania, Kassim Sheghembe, 2023)

Radio station KAHAMA FM is located in Kahama, Tanzania, and is supported by the East-West Seed Knowledge Transfer Foundation. Tanzania hosts two hourly radio shows per month that discuss the various stages of agricultural growth throughout the year. Farmers can phone the studio with questions about farming-related topics, and the

agriculture experts will answer them along with clearing up any doubts they may have about these topics. The most popular themes covered on this radio program are the fundamentals of tomato production, the importance of different vegetable kinds, considerations for beginning a home garden, the various kinds of organic manure and their uses, and trade and making scheduling. According to the East-West Seed Knowledge Transfer Foundation (2023–2024)

Television: CITIZEN TELEVISION: This television network, which is supported by the US Agency for International Development (USAID), airs programming in Kenya, Tanzania, and Uganda. It creates and funds screenplays that convey important agricultural messages. One of the most well-known shows on television is "Makutano Junction," a soap opera that has amassed up to 11 million viewers on YouTube. It teaches people who may pursue a career in agribusiness how to overcome the emotional, social, and professional obstacles that come with the job. "Don't Lose the Plot" is a reality shows that is another program that helps develops the ability of African agricultural institutions and trains leaders in the field. Via the website dai-global-development.com (<https://dai-global-development.com>)

The television network that is suitable for a broad discussion on agricultural innovation in Kenya, Tanzania, Rwanda, and Uganda is called EDUTAINMENT TV. One of its well-known programs is "Shamba Shape Up," a series that concentrated on innovation in planting, horticulture farming husbandry, soil conservation, and dairy operations. The website [g-frans.org](https://www.g-frans.org) (<https://www.g-frans.org>)

Newspaper: As per the research conducted by Catherine M. O et al. (2014), they examined the coverage of agricultural news in Tanzanian publications between 2009 and 2013. 840 editions of four newspapers, including Mwananchi, Habari Leo, The Guardian, and Daily News, were selected for the study. The data were collected using a checklist and then examined using Microsoft Excel and SPSS. Based on the study's findings, only 836 (1.3%) of the 63,609 news items in all four newspaper editions had information about agriculture. Agricultural news articles published as a proportion ranged from 0.79 to 1.92 between 2010 and 2012. Agricultural articles averaged 39.4 for Mwananchi, compared to 61.4 for Habari Leo, was the higher ranking. Agriculture-related content was only 4.9% prominent in all of the newspapers.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1. Conclusion

Media provides various platforms including electronic, print, and new media, which offer numerous benefits for farming and can be effectively integrated with agriculture. These channels are highly utilized by Tanzanian small-scale farmers as sources of agricultural information and knowledge. Both electronic and print media feature programs related to farming and agriculture, facilitating connections with farming communities across different regions and the nation as a whole. This allows small-scale farmers to discuss and share information about agriculture with their peers.

Radio stands out as the most popular and widely used medium of communication among farmers, particularly small-scale farmers. It enables farmers to focus on specific topics and programs, fostering connections within their community to share knowledge and information instantly regarding their daily farming practices and challenges. Additionally, radio serves as a platform for initiating agribusiness ventures and diversifying income sources. On the other hand, television offers opportunities to watch demonstrations of farming methods and techniques, providing visual aids to complement agricultural learning.

The current study, titled "The Role of Media in Agricultural Development in Tanzania: A Study," was conducted with the aim of examining its impact on small-scale farmers in Gairo District, Morogoro Region. The study sought to achieve the following objectives:

Main objective

The primary objective of this study is to examine the role of mass media in rural and Agricultural development in Tanzania especially to small holder farmers.

Specific objectives

- i. To a study the role of media in inculcating, adaptation of innovation and barriers in agriculture among small holder famers of Tanzania.
- ii. To explore the changes in agriculture practices in rural areas of Tanzania through media.

- iii. To find out the communication strategies being used by various agencies to promote agriculture
- iv. To examine the role of media in the development of the rural areas in Tanzania.

The study was conducted in the Gairo district of the Morogoro Region in Tanzania, with three villages— Ibuti, Msingisi, and Ihenje— purposively selected for data collection. A total of 384 small-scale farmers were randomly selected from these villages. Data was collected through semi-structured questionnaires administered to the farmers, as well as interviews with village leaders, field agriculture officers, representatives of the Tanzania Ministry of Agriculture, and stakeholders from both governmental and non-governmental organizations involved in agricultural development, as well as representatives from private media outlets. The data was analyzed using statistical techniques such as percentages, frequencies, chi-square tests, and graphs for quantitative data, while qualitative information was analyzed descriptively. This analysis allowed for drawing inferences regarding the comparison of small-scale farmers concerning various independent and dependent variables. As explained below;

Section One – Quantitative Methods

A. Demographical Character:

- i. Gender Distribution:

The majority of respondents were female, comprising 202 out of 384 respondents, equivalent to 52% of the total sample. Efforts were made to balance the gender distribution in the research.
- ii. Age Range:

The data indicates that the majority of smallholder farmers fall within the age range of 21 to 40 years, constituting almost 55% of all respondents.
- iii. Income Levels:

Regarding income levels, a significant portion of smallholder farmers still earns low incomes. The majority fall within the income bracket of 100,001 to 200,000 Tanzanian shillings per year, followed by those earning less than 100,000 Tanzanian shillings per year, accounting for 61.5% of the respondents.

iv. Farming Experience:

The data reveals that a considerable number of smallholder farmers in Tanzania have farming experience exceeding fifteen years. Out of 384 respondents, 170 have farming experience of over fifteen years, accounting for 44.3% of the entire sample.

B. Role Of Media In Inculcating, Adaptation Of Innovation And Barriers In Agriculture Among Small Holder Farmers

i. Source of Media Used by Smallholder Farmers for Accessing Agricultural Information and Knowledge:

The majority of smallholder farmers prefer radio as their primary source of agricultural knowledge and information. Out of 384 respondents surveyed, 305 (79.4%) indicated radio as their preferred medium for gaining agricultural insights. This preference for radio surpasses three-quarters of the total sample size. Following radio, television emerges as the next preferred medium. Therefore, radio is identified as the most effective channel for disseminating agricultural information and knowledge to smallholder farmers in Tanzania, with television as a secondary but still significant medium.

- Analysis of the relationship between gender and media preference reveals interesting patterns. Male respondents show a preference for newspapers as their primary source of agricultural information, followed by television. On the other hand, female respondents exhibit a strong inclination towards radio over other mass media channels. Consequently, the null hypothesis indicating no significant relationship between gender and media preference is upheld. Age, income and experience sections, the null hypothesis is significant and accepted, that means there is no relationship between variables.

ii. The Preferred Media for Broadcasting Innovative Farming Methods:

A significant majority, comprising approximately 80% of all respondents, favored radio as the primary medium for broadcasting innovative farming methods, followed by television, which was preferred by only 20.8% of respondents.

Regarding gender, the analysis revealed a significant relationship between gender and media preference, as indicated by the rejection of the null hypothesis.

However, in the sections relating to age, income, and farming experience, the null hypothesis was found to be significant and accepted, suggesting no significant relationship between these variables.

iii. The Relevance of Agriculture Knowledge Distribution through Mass Media:

A substantial majority, comprising 75.8% of all respondents, affirmed the relevance of agricultural knowledge gained from the media to their daily agricultural practices.

In terms of gender, the analysis of the frequency distribution of relevance indicated a significant result, with the null hypothesis being significant, suggesting no relationship between variables.

However, in the age and experience sections, the null hypothesis was found to be significant and accepted, indicating no significant relationship between these variables.

Income, The null hypothesis was found to be not significant and rejected, indicating a relationship between variables.

iv. Do these media sources meet the farmers' needs?

77.1 percent of all respondents affirmed that the media sources they rely on meet their information needs.

In terms of sex, the null hypothesis suggests no significant relationship between the sources of mass media used and meeting farmers' information needs.

For age and income sections, the null hypothesis was found to be not significant and rejected, indicating a relationship between variables.

Regarding experience, the null hypothesis was significant and accepted, suggesting no relationship between variables.

v. Can agricultural and farming communication through media help to boost production and adoption of new farming practices?

Almost ninety percent (89.8%) of all respondents affirmed that agricultural communication through media indeed aids in boosting agricultural production and the adoption of new farming practices.

Regarding sex, the null hypothesis was found to be significant and accepted, suggesting no relationship between agricultural communication through media and its impact on production and adoption of new farming practices.

For age and experience sections, the null hypothesis was significant and accepted, indicating no relationship between variables.

However, concerning income, the null hypothesis was not significant and rejected, suggesting a relationship between variables.

vi. Challenges faced by farmers when accessing agricultural information from mass media:

The predominant challenges reported by smallholder farmers include the high cost of purchasing and maintaining media sources (37.2%), such as radios, televisions, and mobile phones. This is followed by issues related to poor signals (26.6%), particularly concerning radio and television frequencies in rural areas of Tanzania.

Regarding sex, the null hypothesis was found to be significant and accepted, indicating no relationship between the challenges faced and the gender of respondents.

However, in the age, income, and experience sections, the null hypothesis was not significant and rejected, suggesting a relationship between variables.

This indicates that bad signals, a weak power supply, and inadequate transportation infrastructures were the main causes of farmers' incapacity to obtain agricultural information through the media. The reason for this was that the farmers found it challenging to obtain the mass media outlets that depend on electricity for their information since several of the research sites were without electricity. There, the researchers saw firsthand how farmers in places with electricity access consulted television for agricultural knowledge. According to Sife (2008), the primary reasons for the low television viewing in the nation are the limited number of TV channels and the inadequate power supply. The country's low agricultural output could be impacted by this, as it could impact farmers' access to knowledge.

These findings also show that one major obstacle stopping farmers from accessing information from radio and television sources is poor reception. The results on radio and

television signals also support the findings of Mtega and Malekan (2009), who found that the main obstacle to farmers' access to information in rural areas was inadequate television signals. Therefore, more signals had to be provided by the government and other information providers in order to ensure sustainable information accessibility and raise farmers' standards of life.

C. The Transformation of Agricultural Practices in Rural Areas through Media

- i. Have you observed improved harvests after implementing farming practices learned from media sources?

A significant majority, 69.3% (266 out of 384 respondents), affirmed that they experienced better yields after applying farming methods and practices obtained through media channels. This indicates that media serves as a reliable source of agricultural information and knowledge for farmers.

Regarding gender, the null hypothesis is significant and accepted, indicating no relationship between variables.

Similarly, in the age and experience categories, the null hypothesis is significant and accepted, suggesting no correlation between variables.

However, concerning income, the null hypothesis is rejected, signifying a relationship between variables.

- ii. Have you ever shared the farming methods and skills you acquired from agricultural programs in the media with other farmers?

A substantial majority, 77.1% (296 out of 384 respondents), reported sharing and exchanging methods and experiences gleaned from agricultural programs via media channels with fellow farmers.

In terms of gender, the null hypothesis is significant and accepted, indicating no relationship between variables.

Similarly, in the age and experience categories, the null hypothesis is significant and accepted, suggesting no correlation between variables.

However, concerning income, the null hypothesis is rejected, signifying a relationship between variables.

- iii. After watching and listening to agricultural programs through media, have you managed to introduce any new crops or farming methods?

Following exposure to agricultural programs through media, a majority (52.9%) of smallholder farmers reported introducing new crops or farming methods that they had not previously utilized. Many of these introductions yielded positive outcomes.

Regarding gender, the null hypothesis is significant and accepted, indicating no relationship between variables.

Similarly, in the age and experience categories, the null hypothesis is significant and accepted, suggesting no correlation between variables.

However, concerning income, the null hypothesis is rejected, signifying a relationship between variables.

- iv. Do the new farming skills you gain from the media and practice help increase harvest and profit?

Approximately 225 out of 384 respondents, representing nearly 59 percent (58.6%) of the total sample, practice new agricultural methods learned from media sources, citing their effectiveness in boosting production and profitability.

In the sex, age, and income categories, the null hypothesis is rejected, indicating a relationship between variables.

However, in the experience section, the null hypothesis is significant and accepted, suggesting no relationship between variables.

- v. Is there any support or follow-up you receive from agriculture offices at any level, such as village, district, and national, for implementing the farming skills introduced through media?

Only 38% of smallholder farmers report receiving support or follow-up from agriculture offices and officers at various levels, from the village to the national level, when attempting to implement the farming techniques learned from agricultural programs through media.

In terms of sex, the null hypothesis is significant and accepted, indicating no relationship between variables.

Similarly, in the age and experience categories, the null hypothesis is significant and accepted, suggesting no relationship between variables.

However, in the income section, the null hypothesis is rejected, indicating a relationship between variables.

D. Communication Strategies being Used by Various Agencies to Promote Agriculture

- i. Are you familiar with any non-governmental organizations (NGOs) apart from the government that promote agricultural development?

Nearly half (46.9%) of the respondents acknowledge awareness of NGOs involved in agriculture development, indicating their collaboration with farmers.

In terms of sex, the null hypothesis is significant and accepted, suggesting no relationship between variables.

Similarly, in the age and experience sections, the null hypothesis is significant and accepted, indicating no relationship between variables.

However, in the income section, the null hypothesis is rejected, indicating a relationship between variables.

- ii. How did you become aware of NGOs that promote agricultural development?

33.2% (128 out of 384) of respondents stated that they became acquainted with these NGOs through direct physical visits by their representatives to the village, while 25.8% (77 respondents) mentioned awareness through agricultural extension or field agriculture officers.

In the sex and experience sections, the null hypothesis is significant and accepted, indicating no relationship between variables.

However, in the age and income sections, the null hypothesis is rejected, suggesting a relationship between variables.

iii. Which methods are employed by NGOs to promote agricultural development?

62.2% of respondents affirmed that NGOs utilize seminars as a method to promote agricultural development, followed by 51.6% who mentioned training sessions for smallholder farmers.

In terms of sex, there is no significant relationship between variables for methods such as media agriculture programs, distribution of brochures and notes, and seminars. However, there is a significant relationship for training methods.

The null hypothesis is significant and accepted for age and income sections, indicating no relationship between variables.

- For experience, there is no significant relationship between variables for methods such as media agriculture programs, distribution of brochures and notes, and training. However, there is a significant relationship for seminars.

iv. Do NGOs provide support for agricultural improvement?

57% of respondents, totaling 219 out of 384, indicated that NGOs involved in agriculture development offer support to enhance agricultural practices in their areas.

Null hypothesis: Significant and accepted for sex and age sections, indicating no relationship between variables.

Null hypothesis: Not significant and rejected for income and experience sections, indicating a relationship between variables.

v. What types of support are provided by these NGOs to enhance agriculture?

The main types of support provided by NGOs for improving agriculture, as reported by smallholder farmers, include seeds (43.5%) suited for their land and environment, followed by manure (33.1%).

Null hypothesis: Significant and accepted for sex, age, and experience sections, indicating no relationship between variables. But the Null hypothesis is Not significant and rejected for income section, indicating a relationship between variables.

vi. Do these forms of support contribute to improving agriculture?

54.7% of respondents, totaling 210 out of 384, agreed that the support received from NGOs involved in agriculture development significantly contributes to improving agricultural practices. This leads to better yields and increased profits.

Null hypothesis: Significant and accepted for sex and experience sections, indicating no relationship between variables.

Null hypothesis: Not significant and rejected for age and income sections, indicating a relationship between variables.

E. Role of Media in the Development of the Rural Areas

i. Media contributes to understanding rural development

49% of respondents (188) agreed that media plays a role in raising awareness and understanding about rural development.

Null hypothesis: Significant and accepted for sex and experience sections, indicating no relationship between variables.

Null hypothesis: Not significant and rejected for age and income sections, indicating a relationship between variables.

ii. Media coverage of government/NGO policies on rural development

55.7% of farmers expressed uncertainty regarding whether the media accurately presents government and NGO policies related to rural development.

Null hypothesis: Significant and accepted for sex, age, income, and experience sections, indicating no relationship between variables.

iii. Media coverage of rural development budget

A significant portion of respondents (58.1%) stated that they are unaware if media provides information about the development budget for rural areas.

Null hypothesis: Significant and accepted for sex and experience sections, indicating no relationship between variables.

Null hypothesis: Not significant and rejected for age and income sections, indicating a relationship between variables.

iv. Media Engagement with Participatory Approaches in Development

Half of the respondents (50%) indicated uncertainty regarding whether media effectively employs participatory communication approaches, while 42% agreed that media works well with participatory rural appraisal, emphasizing citizen-centered development.

Null hypothesis: Significant and accepted for sex and experience sections, indicating no relationship between variables. While the Null hypothesis is Not significant and rejected for age and income sections, suggesting a relationship between variables.

v. Media Outreach for Rural Development Projects

53.9% of respondents expressed uncertainty about whether media effectively brings rural development projects to the people's doorsteps, stating that they have not observed such initiatives.

Null hypothesis: Significant and accepted for sex, age, and experience sections, indicating no relationship between variables. While the Null hypothesis is Not significant and rejected for the income section, indicating a relationship between variables.

Section Two – Qualitative Methods

This section pertains to data collected through qualitative methods, involving interviews with government agriculture officials and representatives from both private and government-owned media, villages' leaders. The analysis of this data was conducted descriptively as outlined below.

- i. How well is the role of the media in inculcating, adaption of innovation and barriers in agriculture among small holder farmers can bring rural development in Tanzania?

The media's role in fostering agricultural innovation among smallholder farmers in Tanzania is pivotal. Through diverse channels, it effectively disseminates information, enabling the adoption of modern practices and technologies. Despite challenges such as limited access and cultural barriers, media initiatives significantly contribute to rural development by enhancing productivity, boosting incomes, and promoting sustainable agricultural practices. Collaborative efforts between the National Irrigation Commission and media platforms are vital for maximizing these positive impacts.

- ii. What are the changes in agriculture practices in rural areas of Tanzania through media?

The adoption of modern agricultural practices has been facilitated by media platforms, leading to significant changes in farming methods. This includes the increased utilization of modern technology, such as precision farming techniques and machinery. Moreover, farmers are incorporating agricultural inputs like fertilizers and pesticides more effectively, optimizing crop yields. Additionally, there has been a notable shift away from traditional seed varieties towards high-yielding, genetically improved seeds. Furthermore, the promotion of irrigation farming methods through media channels has seen increased implementation in various regions, ensuring consistent crop production even in dry periods. Lastly, the adoption of climate-smart agriculture practices, promoted by the media, has enabled farmers to mitigate the impacts of climate change while ensuring sustainable agricultural production.

- iii. What are different communication strategies being used by Government of Tanzania to promote agriculture?

The Tanzanian government, through the Ministry of Agriculture, employs various communication strategies to promote agricultural development. These include the establishment of social media platforms dedicated to agriculture, such as the Instagram account "Wizara_ya_Kilimo," which serves as a hub for agricultural information in Tanzania. Additionally, the government has set up a Government Communication Unit across departments, including the Ministry of Agriculture, to address agriculture-related issues and engage with the public. Public events like Nanenane and World Food Day are utilized to promote agricultural agendas and provide farmers with opportunities to showcase their products. Furthermore, public forums such as farmers' union meetings serve as platforms to discuss agricultural issues and promote agricultural agendas. Additionally, the establishment of Kilimo Television further enhances communication efforts by providing a dedicated channel for agricultural content dissemination. Through these various channels, the Tanzanian government aims to effectively communicate agricultural policies, initiatives, and information to farmers and the public, ultimately contributing to the development of the agricultural sector in the country.

- iv. What is the role of media in the development of the agriculture and rural areas in Tanzania?

According to the feedback from respondents, Tanzania's media plays a pivotal role in the development of agriculture and rural areas. It facilitates the promotion of modern agricultural technology, raises awareness about market trends, and disseminates crucial information regarding weather changes, advocates for government policies related to agriculture, establishes a connection between rural farmers and policy decision-makers, and promotes the availability of various options for agricultural inputs.

SUMMARY

The study involved 384 respondents, with females making up 52%. Most smallholder farmers (55%) are aged 21-40. Income levels are low, with 61.5% earning between 100,001 and 200,000 Tanzanian shillings annually or less. Additionally, 44.3% of farmers have over fifteen years of farming experience, indicating a mix of youthful and experienced participants in the sample.

Also most smallholder farmers (79.4%) prefer radio for agricultural information, with TV as a secondary source. Gender affects media preference—males favor newspapers, females prefer radio. Around 80% favor radio for learning innovative farming methods. Media-provided info is relevant (75.8%), and 77.1% say it meets their needs. Nearly 90% say media helps boost farming. Income influences relevance and impact, while gender, age, and experience mostly show no significant relationships. Although Smallholder farmers face key challenges in accessing agricultural info: high costs of media devices (37.2%) and poor radio/TV signals (26.6%), especially in rural Tanzania. No gender-based differences were found, but age, income, and experience influenced challenges. Lack of electricity and weak signals limit access to media, lowering knowledge uptake and output. Improved infrastructure and signal coverage are vital to boost farmers' access to information and productivity.

Furthermore, Most farmers (69.3%) reported improved yields after applying media-taught methods, and 77.1% shared these practices with others. Over half (52.9%) introduced new crops or techniques, and 58.6% confirmed gains in harvest and profit. Gender, age, and experience showed no major influence, but income consistently affected

outcomes. Only 38% received support from agricultural offices. Media proves effective, but follow-up and income disparities remain key concerns.

Moreover, Nearly 47% of farmers are aware of NGOs promoting agriculture, mainly through village visits (33.2%) and extension officers (25.8%). NGOs support development via seminars (62.2%) and training (51.6%), offering seeds (43.5%) and manure (33.1%). Over half (54.7%) say NGO support boosts farming. Gender and experience largely show no influence, while age and income often affect awareness, support access, and perceived benefits from NGO involvement.

Additionally, About 49% of farmers believe media aids in understanding rural development, with age and income influencing this view. Over half are unsure if media accurately covers government/NGO policies (55.7%) or rural development budgets (58.1%). Half doubt media uses participatory approaches, though 42% agree it supports citizen-centered development. Media outreach impact remains unclear to 53.9%. Income often affects perceptions, while sex and experience show no significant influence.

However, Media in Tanzania plays a vital role in rural and agricultural development by spreading innovations, promoting modern farming methods, and facilitating access to key information. It helps farmers adopt improved seeds, irrigation, and climate-smart practices, boosting yields and resilience. The government supports this through social media, Kilimo TV, public forums, and events. Media also bridges farmers with policies markers, markets, and technologies, despite barriers like limited access and infrastructure.

6. 2 Recommendations:

6. 2. a. To Government, NGOs and Media

- Government and non-governmental organizations (NGOs) need to offer extensive training programs to rural small-scale farmers.
- Reliable and efficient internet connectivity is essential in rural areas to facilitate the dissemination of information.
- Sharing farmers' experiences with agricultural experts helps small-scale farmers overcome their agricultural challenges.
- Utilizing simple and local language during seminars, training sessions, and information dissemination in agriculture.

- Ensuring round-the-clock electricity availability at the village level and maintaining adequate infrastructure such as roads to streamline the distribution of agricultural materials and transportation of products from rural smallholder farmers.
- Providing specific crop and technology information to small-scale farmers in rural areas.
- Media outlets should intensify efforts to disseminate information to rural areas regarding the development budget allocated for their regions and exert more effort in providing information to the targeted audience regarding rural development projects
- The government and rural agricultural development NGOs in Tanzania should raise awareness about policies pertaining to rural development.
- Field agriculture officers should offer regular support and visit small-scale farmers frequently.
- The Tanzanian government, through the Ministry of Agriculture, should utilize affordable and preferred media channels, especially those used by small-scale farmers, to disseminate agriculture-related agenda items.

6. 2. b. For the Future Research

- Investigating the effectiveness of digital media in reaching rural communities, how it influences agricultural practices, and its role in facilitating rural entrepreneurship could provide new insights.
- Examining how media literacy programs can improve the capacity of rural populations to interpret agricultural information correctly and apply it effectively would be valuable.
- Understanding how different levels of media impact rural development, and identifying whether local media has a stronger or weaker effect than national media, could shape media strategies for development.
- Research could explore how different media formats contribute to climate change awareness and adoption of sustainable practices, and how media can influence policy changes related to environmental sustainability.
- Evaluating the quality, relevance, and cultural sensitivity of media content for rural communities, including how messages are framed (e.g., problem vs.

solution-oriented), would provide deeper insights into how to improve media campaigns for agricultural and rural development.

- Understanding how to use media to engage rural youth, foster interest in agriculture, and retain them in rural areas (e.g., through agricultural entrepreneurship and technology) could be a key focus.
- Exploring how media representation of rural life influences youth aspirations, intergenerational knowledge transfer, and the public perception of agriculture can help shape media strategies.

By focusing on these research gaps, future studies could help refine the ways media can be utilized to support agricultural and rural development, ensuring that media is both an effective tool for change and a catalyst for sustainable development.

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APENDICES

APPENDIX 1 SURVEY QUESTIONNAIRES ROLE OF MEDIA IN AGRICULTURAL DEVELOPMENT IN TANZANIA: A STUDY

Main Objective

The major purpose of this study is to examine the role of mass media in rural and Agricultural development in Tanzania especially to small holder farmers.

Specific Objectives

- i. To a study the role of media in inculcating, adaptation of innovation and barriers in agriculture among small holder famers of Tanzania.
- ii. To explore the changes in agriculture practices in rural areas of Tanzania through media.
- iii. To find out the communication strategies being used by various agencies to promote agriculture.
- iv. To examine the role of media in the development of the rural areas in Tanzania.

QUESTIONS

A. Demographic Character

1. What is your sex?
 - a) Male
 - b) Female
2. What is your age?
 - a) Below 20
 - b) 21-30
 - c) 31-40
 - d) 41-50
 - e) Above 60
3. Your marital status?
 - a) Single
 - b) Married
 - c) Divorced
 - d) Separated
 - e) Widow/Widower
4. What is your approximate annual income level? (In Tanzanian Shillings)
 - a) Less than 100,000
 - b) 100,001 – 200,000

- c) 200,001 – 300,000
 - d) 300,001 – 400,000
 - e) More than 400,000
5. What is your highest level of education completed?
 - a) None
 - b) Primary
 - c) Secondary
 - d) College/University
 6. What is the size of your farmland (in hectares)?
 - a) Below 0.5 hectare
 - b) 0.5 – 1 hectare
 - c) 1 – 1.5 hectares
 - d) 1.5 – 2 hectares
 - e) 2 – 2.5 hectares
 7. How many years of farming experience do you have?
 - a) 0-5
 - b) 6-10
 - c) 11-15
 - d) Above 15
 8. Which type of crops do you cultivate more?
 - a) Food crops
 - b) Cash crops
 - c) Both food and cash crops

B. Role Of Media In Inculcating And Adaptation Of Innovation In Agriculture Among Small Holder Farmers

9. What is your primary source of media for accessing agricultural information?
 - a) Newspapers
 - b) Radio
 - c) Television
 - d) Social Media
10. Which social media platforms do you use for accessing agricultural information? (Select all that apply)
 - a) WhatsApp
 - b) Instagram
 - c) Facebook
 - d) YouTube
 - e) Others (please specify) _____
11. Which of the following media channels/platforms do you believe disseminate more innovative and relevant programs to farmers?

- a) Newspapers
 - b) Radio
 - c) Television
 - d) Social Media
12. Do mass media platforms provide sufficient and relevant information about agricultural knowledge to farmers?
- a) Very relevant
 - b) Relevant
 - c) Somewhat relevant
 - d) Irrelevant
 - e) Very irrelevant
13. Do you think agricultural communication through media can help boost the adoption of new farming practices and increase production?
- a) Yes
 - b) No
 - c) Rarely
 - d) Never
 - e) Every time
14. What are the challenges farmer's faces when accessing agricultural information from mass media? (Select all that apply)
- a) Poor signal
 - b) Poor internet connectivity
 - c) Poor power supply
 - d) High cost of purchasing and maintaining media sources
 - e) Inability to read and write
 - f) Inadequate feedback mechanism

C. The Changes In Agriculture Practices In Rural Areas Through Media

15. Do you experience better harvests after applying farming practices learned from media sources?
- a) Yes
 - b) No
 - c) Rarely
 - d) Every time
 - e) Never
16. How often do you share the methods and skills learned from agricultural programs in the media with fellow farmers?
- a) Yes
 - b) No
 - c) Rarely
 - d) Every time
 - e) Never

17. After watching or listening to agricultural programs through media, have you introduced any new crops or farming methods?
- a) Yes
 - b) No
 - c) Rarely
 - d) Every time
 - e) Never
18. Do the new farming skills learned from media and applied in practice help to increase harvests and profits?
- a) Yes
 - b) No
 - c) Rarely
 - d) Every time
 - e) Never
19. How often do you receive support or follow-up from agriculture offices (village, district, national levels) to implement farming skills learned through media?
- a) Yes
 - b) No
 - c) Rarely
 - d) Every time
 - e) Never

D. Communication Strategies And Support By Ngos In Agriculture Development

20. Do you know of any Non-Governmental Organization (NGO) that promotes agriculture development?
- a) Yes
 - b) No
 - c) Maybe
 - d) Rarely
 - e) Never
21. How did you become aware of the NGO(s) that promote agriculture development?
- a) Through media campaigns
 - b) Physical presence in villages
 - c) Through community leaders
 - d) Word of mouth from others
 - e) Through extension or agriculture officers
22. Which methods do these NGOs use to promote agriculture development?
- a) Through Agriculture programs on media
 - b) Through Distribution of brochures and notes
 - c) Through seminars

- d) Through training
- e) Through Physical visits

23. Do these NGOs provide support for improving agriculture?

- a) Yes
- b) No
- c) Maybe
- d) Rarely
- e) Never

24. What types of support are provided by these NGOs to improve agriculture?
(Select all that apply)

- a) Cash loans
- b) Equipment/material loans
- c) Providing seeds
- d) Providing manure
- e) Providing Tractors rental services
- f) Other (please specify) _____

25. Do these supports help in improving agriculture?

- a) Strongly agree
- b) Agree
- c) Neutral
- d) Disagree
- e) Strongly disagree

E. Role Of Media In The Development Of Rural Areas

26. Media brings understanding and knowledge concerning rural development.

- a) Strongly agree
- b) Agree
- c) Neutral
- d) Disagree
- e) Strongly disagree

27. Media presents information about government/NGOs policies regarding rural development.

- a) Strongly agree
- b) Agree
- c) Neutral
- d) Disagree
- e) Strongly disagree

28. Media presents information about the development budget for rural areas.

- a) Strongly agree
- b) Agree
- c) Neutral

- d) Disagree
- e) Strongly disagree

29. Media works well with participatory approaches/communication and developmental opportunities.

- a) Strongly agree
- b) Agree
- c) Neutral
- d) Disagree
- e) Strongly disagree

30. Media takes rural development projects to the doorsteps of the people.

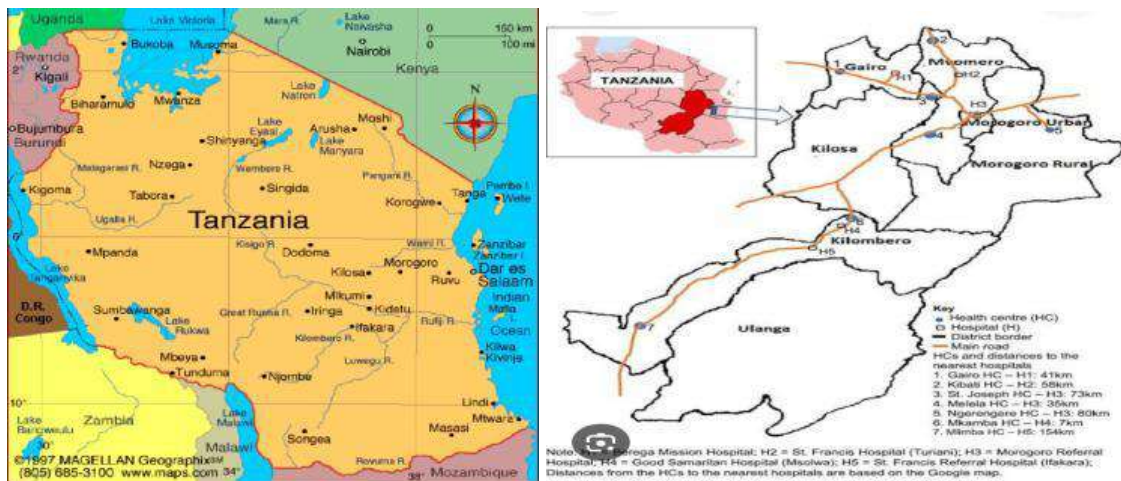
- a) Strongly agree
- b) Agree
- c) Neutral
- d) Disagree
- e) Strongly disagree

Interview and Open Ended Questions:-

1. In what ways do you think media platforms could better tailor their content to effectively communicate agricultural innovations to smallholder farmers?
2. What are some of the main challenges or barriers faced by smallholder farmers in Tanzania when it comes to adopting new agricultural methods or technologies?
3. How do you think the portrayal of agricultural practices in media content aligns with the actual experiences and needs of farmers in rural Tanzania?
4. From your perspective, what are some effective communication strategies employed by agencies or organizations and government to promote agricultural development in Tanzania through media channels?
5. How do the media contribute to the advancement of agriculture and rural areas in Tanzania?

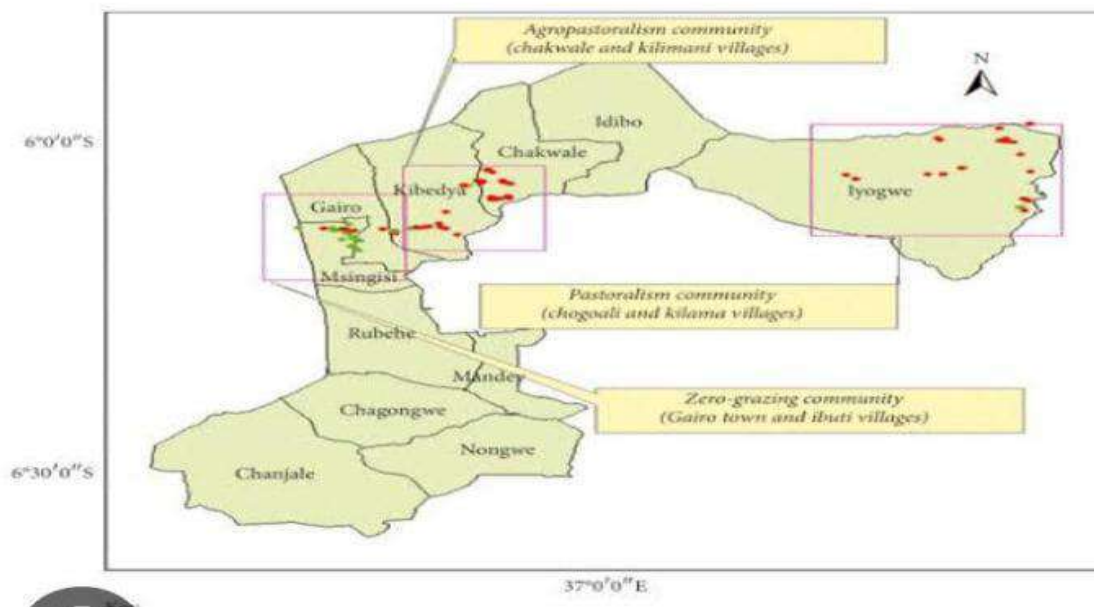
APPENDIX 2

MAP OF THE STUDY AREA



Map of Tanzania

Map of Morogoro Region



Map of Gairo District

Source: www.maps.com

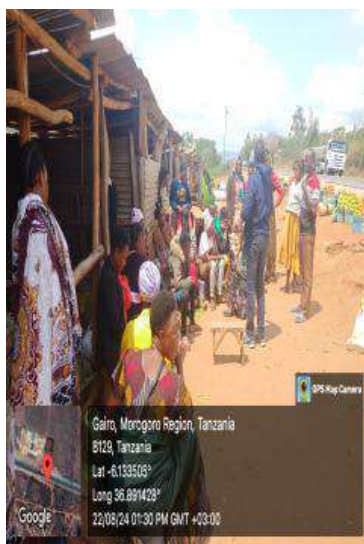
APPENDIX 3

PICTURES DURING DATA COLLECTION



1.

**An interview session with
the Gairo District
Agriculture officer**



2.

**A group discussion with
the small holder farmers**



3.

**Tractors for supporting
small holder farmers**



4.

**An interview with the journalist/media
On how media helps small holder farmers.**



5. & 6.

A session with villages' leaders



APPENDIX 4 PUBLICATIONS

A) PAPERS

- i. **Mass Media Transition In Rural Tanzania; Traditional Media Versus New Media (2023)**, <https://doi.org/10.48047/ecb/2023.12.si4.1298>
Eur. Chem. Bull – ISSN 2063-5346. 2023, 12(Special Issue 4), 14364-14370
- ii. **Integrating media and information tools for enhanced management of food and agricultural waste (2025)**, Bulgarian Chemical Communications, Volume 57, Special Issue B (pp. 00-01) 2025, DOI: <https://doi.org/10.34049/bcc.57.B.A0014>
- iii. **A Multifaceted Analysis of Pesticide Utilization in Market Gardening along the Ruzizi Plain: Exploring Factors, Farmer Perceptions, and Media Influence (2024)**, <https://doi.org/10.14719/pst.3731>, **Plant Science Today-ISSN 2348-1900** (Online)
- iv. **Media performance and rural development in developing countries: effects of mass media on inculcating, adoption of innovation and challenges in agricultural development (2024)**, <https://bpasjournals.com/library-science/index.php/journal/article/view/1823>, Library Progress International-eISSN:2320-317X
- v. **Weeds in Agricultural and Nonagricultural Systems: Media Influence, Impacts and Trends for a Better Systematic Control against Alternate and Collateral Hosts of Crop Pests (2024)**, <https://doi.org/10.14719/pst.4187>, **Plant Science Today-ISSN 2348-1900** (Online)

B) BOOK CHAPTERS

- I) **Role of Social Media in Agricultural Knowledge Dissemination**, pg. 67-77, **Book Name:** Media Technology and Social Change - SBN:978-81-982375-4-5. 2024
- II) **Media's Role in Shaping Digital Transformation and Inclusive Economies: Leveraging AI and Emerging Technologies for Sustainable Development**, pg. 28, **Book Name:** AI and Digital Technologies Transforming Global Industries – ISBN13:9798337360973©2026, DOI:10.4018/979-8-3373-6097-3.ch004

APPENDIX 5 CONFERENCES

- a) 28th -30th August 2024:
The University of Dar es Salaam (Tanzania)
-14th Annual East Africa Communication Association (EACA)
Conference
- b) 27th – 28th March 2024:
Bebe Nanaki University College Mithra (Kapurthala), Punjab - India
-Impact of Science and Technology on Society - National Seminar
- c) 13th – 15th September 2023:
The University of Dar es Salaam (Tanzania)
-African Humanities Conference 2023
- d) 28th – 29th April 2023:
Lovely Professional University, Punjab - India
-International Conference on “Emerging Media Trends & Its
Impact on Society & Governance”

APPENDIX 6

WORKSHOPS AND TRAINING

- a) 09th - 13th January 2023: **Lovely Professional University (India)**
- Short term course on Digital
Media Analytics
- b) 20th - 27th June 2025: **Panjab University, Chandigarh (India)**
- Training on Universal Human
Value II-For Development
Program. UHV- II FDP

APPENDIX 7

LETTERS/PERMITS FOR DATA COLLECTION



Division of Examination

Recognized by UGC under Section 2(f) of the University Grants Commission Act, 1956 by the Notification No. F.9-10/ (CPP-1)

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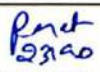
TO WHOM SO EVER IT MAY CONCERN

Name of the Student Ms. Angel Anthony Kasonta
Daughter of Mr. Anthony Solomon Kasonta
Registration No. 12202689
Name of the Programme Doctor of Philosophy (Journalism and Mass Communication)
Batch 2022
Lovely Faculty of Business and Arts

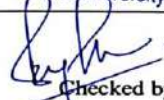
This is to certify that Ms. Angel Anthony Kasonta is a registered research scholar at this university and conducting her research on the topic "ROLE OF MEDIA IN AGRICULTURAL DEVELOPMENT IN TANZANIA: A STUDY" under supervision of Dr. Sugandha Shekhar Thakur, Assistant Professor, Lovely Professional University.

To carry out her research work, she is expected to visit your esteemed institution/ organization for data collection and use academic resources as per research requirements under rules and regulations of your institution/organization and country.


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TAWALA ZA MKOA NA SERIKALI ZA MITAAA



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13 Septemba 2023.

Gairo,

**Yah: KIBALI CHA KUFANYA UTAFITI KUHUSU ROLE OF MEDIA IN AGRICULTURE
DEVELOPMENT IN TANZANIA**

Tafadhali rejea mada tajwa hapo juu.

Ofisi ya Mkuu wa Mkoa imepokea barua yenye kumb. Na. AB. 506/381/02 ya tarehe 30 Agosti, 2023 kutoka kwa Katibu Mkuu, Ofisi ya Rais – TAMISEMI ikimtambulisha **Ms. Angel Anthony Kasonta** Kutoka chuo kikuu cha **Lovely Professional University** kwa ajili ya kufanya utafiti tajwa katika mkoa wetu.

Ofisi ya Rais – Tamisemi kwa kushirikiana na Taasisi nyingine za Serikali itafanya ukaguzi wakati wowote kujiridhisha na uetekelezaji sahihi wa kibali hiki. Takwimu zitakazokusanywa kutokana na utafiti huu ni kwa ajili ya matumizi ya ndani tu na iwapo zitatakiwa kuchapishwa na kusambazwa kibali kutoka mamlaka husika kitapaswa kuombwa.

Utafiti huu utanza tarehe 13 Septemba, 2023 hadi Oktoba 2023, kazi hii isimamiwe na Mtakwimu husika na kutoa taarifa ya uetekelezaji. Nakala ya matokea ya utafiti huu itumwe kwenye mipango@morogoro.go.tz

Nashukuru kwa ushirikiano wako.

Erick Ulomi
Kny: KATIBU TAWALA MKOA.